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# California State Journal of Medicine

ISSUED MONTHLY: OWNED AND PUBLISHED BY THE  
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# California State Journal of Medicine

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ALFRED C. REED, M. D.

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VOL. XVI

NOVEMBER, 1918

Number 11

## INFLUENZA.

Epidemic influenza has reached the Pacific Coast in its pandemic progress from eastern Europe around the world. It is doubtless the same disease which appeared in pandemic form in 1889-1890, and previous to that, at more or less regular periods for many centuries. Its specific cause is unknown, although the name "influenza bacillus" was attached by Pfeiffer in 1892 to a certain organism found in the nasal and bronchial secretions. This bacillus is found in only a minority of cases in the present epidemic. It has been found in the highest percentage in naso-pharyngeal swabs, and has been isolated also post mortem in pure culture from pneumonic lung tissue. Various other organisms have been found associated with the present outbreak, especially a gram-positive pleo-morphic coccus, tending to grow in chains and to produce involution forms. It is believed that a filterable virus can be excluded. Secondary pneumonias have yielded pure cultures of pneumococci, Pfeiffer's bacilli and streptococci. Blood cultures are uniformly negative.

Epidemic influenza, to use the Italian term, or la grippe, after the French, is characterized now as previously, by the extraordinary speed of its spread, this being, however, no more rapid than means of human conveyance, and by the high percentage of the population attacked. In Spain 30 per cent. of the population are reported to have suffered from the disease. Previous epidemics have attacked as high as 40 per cent. of the population. Thus far from 10 to 15 per cent. of the cases have been complicated with pneumonia, to which most of the fatalities are due. Approximately one-third of the pneumonias prove fatal, although there is reason for believing that this mortality will be lower in California.

While one attack does not confer immunity, the

individual seeming possibly even to be more susceptible, it is nevertheless true that the great majority of the present cases are under 30 years of age. In other words, this epidemic flourishes principally among those persons who were born after the pandemic of 1889-1890. This, like preceding epidemics, has a definite sporadic onset associated with carriers from the infected zone, a period of increase to a peak, with a gradual subsidence, the average epidemic duration being six to eight weeks. Its death rate, aside from complications, is characteristically low, in this, as in high morbidity, closely resembling dengue. Earlier reports from the army in France catalogued the disease as "three-day" fever, a term ordinarily applied to a more or less indeterminate group of fevers related to sand-fly fever, or "dengue-like" fevers. There is, however, no question of an insect carrier in influenza as the disease is definitely contagious and transmitted directly by droplet infection.

The onset is usually sudden with severe general pain, especially in the back, head, chest and limbs. Vomiting and epistaxis are frequent. Weakness and prostration are marked from the first. Anorexia and insomnia are characteristic, although in the first two days the patient is often semi-stuporous. The temperature is irregular between 100° and 104°. Some cases show a flat course at 102°, for instance, lasting three to five days, with abrupt termination. With extreme aching, soreness and prostration, some cases have a fever not exceeding 100° and often little above 99°. The more common type is a rise to 103° or 104° or more with slight remissions for from one to three days, and then an irregular decline, often with exacerbations after a day or two of normal temperature.

The pulse is usually slow as compared with the

fever and the respiration rate normal. Moderately inflamed tonsils are often seen and a definite but minor percentage have moderate conjunctivitis and photophobia. Dry, reddened pharynx, with aching throat, is frequent. A slight rhinitis usually follows in a few days but is seldom pronounced. In the California cases thus far cervical adenitis is rare. A leukopenia is characteristic and a white count over 8,000 suggests a complication or wrong diagnosis. Many severe cases have less than 4,000 leucocytes. Even in secondary pneumonia, the leucocytes are usually low. The urine shows only the manifestations due to fever. Epistaxis is a prominent feature in many cases, with occasional hemorrhage from the bladder or bowels. Occasional cases show a definite gastro-intestinal localization, with intractable vomiting, diarrhea, and more or less colic. Meningitic symptoms are rare.

The incubation period is not definitely known, probably ranging from one to four days. The significance of carriers and the development of acute influenza in carriers, are likewise undetermined. It is possible, as in cholera, that a carrier may remain healthy until some local exciting disorder determines the onset of the specific disease. Thus in cholera, a carrier may develop an acute choleraic lesion under the influence of a non-specific diarrhea or gastro-intestinal irritant, chilling, fatigue, etc. Such a supposition would explain why influenza so often follows an ordinary coryza, acute bronchitis, fatigue, chilling, etc.

No specific treatment for influenza is available, but because of the near-hysteria attending the popular interest in this epidemic, numerous cures are receiving publicity in both medical and lay circles. Physicians should be conservative, yet open-minded, on this subject. Indiscriminate experimentation on patients should be severely condemned. Here is a striking example of where animal experimentation would be of the utmost value except that, unfortunately, influenza cannot thus far be induced in animals.

The most successful symptomatic treatment centers in the use of salicylic acid. A good method of administration is such a formula as follows:

R-Acid acetyl salicylic	.2
Acetphenetidi	.1
Sod. bicarb.	.1

Such a capsule given each 1 to 4 hours.

The antipyretic, analgesic and disinfectant action of salicylic acid seems of particular value here. Sodium salicylate in 5 gram doses, with 0.5 gram sodium bicarbonate, given in 10 cc. distilled water intravenously, has been highly extolled, but does not seem to offer definite advantage over oral administration as a routine.

The bowels should be kept free with salines and an abundant fluid intake insured, amounting to at least 2,500 cc. daily. Lemonade with 2 tsp. lactose and  $\frac{1}{2}$  tsp. sod. bicarb. makes a pleasant and effective drink. Rest in bed with abundant sunshine, fresh warm air, and good nursing are extremely important for quick recovery and avoidance of complications. Hydrotherapy has not been of material assistance, the higher temperatures

proving very resistant. Spraying of mouth, throat and nose several times a day with 1:1000 quinine bisulphate solution containing an equal quantity of menthol, seems of distinct benefit. A clean mouth is imperative. For the racking cough and soreness in the bronchial passages, ipecac has given benefit. It can be prescribed as capsules of powdered ipecac, .065 gram each, three or more times a day. If the cough is more severe, Dover's powder in small repeated doses, is effective. Sometimes ammonium chloride inhalations, or in solution by mouth, or inhalations of benzoin and eucalyptus with a modicum of menthol, give marked relief.

As fast as the patient's appetite allows, the diet should be increased in caloric content, an effort being made to supply a minimum of 2,500 calories daily. The diet list may include such articles as the following: Whole milk, one quart; cereal, lactose custard, gelatin jelly, toast, butter, cream, eggs, six to eight daily, best as eggnogs, malted milk, ice cream. Feedings should be each three hours. Abundant fruit juices, carbohydrates and alkali are important.

The development of complications should be watched for closely. Pneumonia, otitis media, bronchitis, and cardiac weakness should be treated *secondum artem*. A daily chest examination is important to detect local congestion, which occurs chiefly in the bases and more on the left side. "Migratory pneumonia" is of frequent occurrence. Diagnosis should not await definite dullness. Leucocytes, temperature and respiration often remain low in the presence of a beginning broncho-pneumonia. The pulse, too, may give no index of pneumonic development. The pneumonia may become frankly lobar, but as a rule is of a lobular or broncho-pneumonic type. At autopsy what clinically seemed a lobar lesion, often proves to be a massive almost miliary broncho-pneumonia, involving from one lobe to all of both lungs.

Prophylaxis is of the utmost importance. Absolute quarantine will prevent introduction of influenza. No definitely effective vaccine or serum is yet available. In the care of patients in hospital, cubicle isolation is easily secured by stringing wires six feet from the floor between all beds and from these hanging sheets by means of heavy paper clips. Head sheets are not necessary and if the footboards of the beds on opposite sides of the ward are more than ten feet apart, foot sheets are unnecessary. Doctors, nurses and attendants should wear caps, gowns and gauze masks. The last should have four layers of gauze and cover nose and mouth with a wide margin. Five by eight inches is a good size. They should be changed at least once per hour and disinfected in 5% liquor cresolis comp. or equivalent before being washed and dried. As in pneumonic plague, droplet infection is the chief method of conveyance, and therefore most to be guarded against. Hands should be carefully washed with warm water and soap before touching any part of the person unprotected by cap and gown. Dishes should be sterilized by boiling or immersion in 5% liquor cresolis comp. Toilet or other soft paper should be used in place of handkerchiefs and after use should be deposited in paper sacks.

pinned to the bed within easy reach of the patient. These should be burned daily. Pasteboard sputum cups should contain  $\frac{1}{4}$  inch 5% liquor cresolis comp. and be changed at least daily. Disinfection of stools and urine is unnecessary. For personal prophylaxis, Dr. Sanford Blum of San Francisco urges the use of potassium iodid or syrup of hydriodic acid, in small repeated doses.

Prophylaxis should include sufficient sleep, rest, open air and sunshine. Crowded street cars and indoor gatherings of all sorts must be eschewed. Sneezing or coughing without the face protected by a handkerchief is a sanitary crime. Spitting should be similarly repressed. Gauze masks should be worn in public by all persons where influenza is epidemic.

#### THE PSYCHOPATHIC HOSPITAL IDEA.

One of the institutions badly needed by California, and especially by the community in and about San Francisco, is a Psychopathic Hospital, and the medical profession as a whole should interest itself in the effort now being made to obtain such.

The functions of such a hospital are many, important among them being, first of all, to serve as a nucleus, about which a rational program for the state care of those with nervous or mental disease or defect, can be built. To be sure, each institution should be a center of psychiatric activity for its own area, but there should be a center of centers, from which should emanate scientific inspiration, and co-ordinate plans as well as trained assistants to supply other institutions. By concentrating certain state-wide functions in such an institution many things can be more adequately and economically accomplished. Furthermore, by being located in the city, it serves as a first line of attack against the problem of disease, thus bringing early and borderline cases to the attention of experts. This is especially true of its Out-patient Department, where large numbers of cases may be seen which would otherwise get to a state hospital too late for benefit. Its social service department would supply a long-felt want. Finally, as an educational center both for students, practitioners and the laity, it is the first move toward rational preventive medicine and mental hygiene.

However, the time has long since passed when it is necessary to enumerate arguments in favor of a Psychopathic Hospital. That one is an absolute necessity is a truism. At present the only argument against its immediate erection is the expense. Surely, a rich, self-conscious state like California will not lag behind and allow this need to continue unmet. The thousands of dollars now spent by courts, social agencies, schools, charitable organizations and hospitals in trying to solve these problems of the psychopathic individuals would more than build and maintain a Psychopathic Hospital.

#### NEWSPAPERS AND THE DOCTOR.

How the average newspaper does enjoy poking fun at the doctor! And how often it slurs him and his work, and by innuendo and unrefuted misstatement allows him to suffer injustice! Such, doubtless, is to be expected and as a general thing arouses only amusement at the expense of the newspaper. As, for instance a San Francisco paper

recently published an editorial suggesting that much well-intended medical enterprise is misdirected as promoting disease by advertising it. Of course the fallacy of such a statement is self-evident, except, apparently to its sapient author. It is of record that non-medical persons with a prurient regard for medical literature, have died of a misprint. Others, too, assuming the practice when they were ignorant of the theory, have died of a wrong dilution and of taking it internally instead of by inunction of the skin.

Such instances, doubtless, afford the thoughtful editor quoted above, full justification for holding the medical profession entirely to blame. As Dr. Rucker once said, the child dead of whooping cough is just as dead as if he had died of diphtheria. It is a matter of indifference to the tubercle bacillus whether his victim be Eddyite, Christian, Greek or barbarian, gutter-snipe or man of destiny, so long as he finds the soil favorable and his growth unchecked. Not advertising the disease will not eliminate it, as has been amply demonstrated in the past. The deaths above 1 to 10,000 cases of influenza may be due entirely to fear, as certain Eddyites proclaim, but the persons involved are just as dead as if the pathologic lesions of the autopsy table were really responsible for the death.

Why should newspapers disregard the proved facts of science and the tested good judgment and sound desire of the great majority of their readers? Do they imagine that good comes from such specious chatter? Or are they trying to cater to some small clique with a private grudge, and dare not boldly state their true position?

Along with the above might be noted in the same newspaper quoted a half-column squeal from a self-styled physician inveighing against the injustice and chicanery of the State Board of Medical Examiners for having refused him, and many like him, license to practice medicine in California. Of course he neglected to say that the Board of Medical Examiners has as its one function, in law and practice, not the protection and aggrandizement of physicians, but solely the protection and welfare of the public, and is created by and responsible to, that public. Also the aforesigned newspaper, not only printed no suggestion of repudiation of the outrageous indictment brought by this disgruntled black sheep, but apparently concurred in his diatribe, even heading it with large display type.

Some day newspapers of the west will so far value science and its contribution to life, and will so enhance their appreciation of newspaper fact, and will so correctly value the taste, desire and mentality of their readers, that they will imitate certain of the great eastern dailies, which have a well-trained medical staff member to edit their medical and scientific news and editorials.

#### VOLUNTEER MEDICAL SERVICE CORPS.

Some misunderstanding has arisen of late regarding the status, function and usefulness of the V. M. S. C. In another column will be found a condensed and complete statement of the reorganized corps. This should be read with attention by every physician not in the army, the navy

or the U. S. Public Health Service. It can be made an important factor in our war program. Membership is strongly recommended.

It must be made clear that the Volunteer Medical Service corps is a volunteer organization which has for its object the enrollment and classification of the profession. Its members are entitled to wear an insignia which will clearly indicate that they have offered their services to the government, when such services are needed. Patriotism cannot be created by coercion. It also must be made clear that the Volunteer Medical Service corps has for its primary object, furnishing its classification to the army, the navy, the Public Health Service, the Red Cross and provost marshal, as well as to civilian institutions and communities, as a guide in providing for their needs to the best advantage.

The object of the corps is not to disturb any medical man in the performance of any duty to which he has been assigned by any governmental agency either for service at the front or at home.

We must recognize clearly that winning the war is our one great ambition in life, and that, until that end is fully accomplished, nothing else can claim our first attention. Here is an approved means, endorsed by the President and the government, whereby every physician not in the military, may place his service most advantageously in the present crisis.

#### THE COMMUNAL KITCHEN.\*

Pressure of food conditions due to the war has led to widespread employment of communal kitchens in European countries. England has this year established national kitchens, under the Director of the Communal Kitchens Section of the Ministry of Food. Late in March there were 250 kitchens with the probability that inside of two months the number would increase to 1,000. The Ministry of Food seeks not so much the relief of any one class, as to effect a national economy in fuel and foodstuffs. Even with a minimum of waste in private kitchens, and in many the waste is still excessive, a considerable economy results from the use of one centralized kitchen.

The use of the communal kitchen has passed the experimental. To be successful it must avoid the slightest suspicion of charity, must be supported by an educated public sentiment, must be attractive to the public, must cater to tastes and prejudices of patrons, and must offer better value than the private kitchen. It should utilize existing agencies and apparatus so far as possible, as school kitchens and institutional plans already provided with steam appliances. Among its distinct contributions, aside from better food at lower price, are its convenience and time-saving features.

In England communal kitchens are operated on two plans. In one the food is dispensed from the central plant direct to purchasers. In the other, the food is distributed to a number of retail

branches. This latter allows greater centralization with consequent saving in buying supplies, in labor and necessary expert supervision. The nature of the menu is governed by two considerations, the one requiring dishes which can be prepared with the least variety of appliances, thus reducing labor cost, and the other requiring dishes which can be warmed over.

One successful London kitchen supplies 6,000 customers weekly, representing 12,000 to 15,000 persons. Here it is necessary to sell at lowest prices possible and a simple menu is offered, consisting of soup at 2 cents, a meat course at 6 cents, or a substitute on meatless days at 4 cents, one vegetable at 2 cents, and a dessert at 2 cents. Here the meat is usually in the form of a pie. In other cities, where there was less necessity for keeping the cost so low, more varied menus are provided. Such a typical menu is as follows:

Scotch broth .....	3 cents
Fish roll .....	4 "
Vegetable pie .....	4 "
Minced meat .....	8 "
Roast meat .....	10 "
Potatoes .....	2 "
Parsnips .....	2 "
Ginger pudding .....	4 "
Plain pudding with sauce .....	4 "
Baked rice pudding .....	3 "

Here the customers provide their own receptacles for taking food home. In most cities the average price of a dinner is 14 to 16 cents, in some cases being as low as 10 cents.

Reports from Austria and Germany show that communal kitchens have a considerable vogue. In December, 1917, it was estimated that in Germany one-fourth of the population in cities over 10,000 used communal kitchens, and in cities over 500,000 one-third used them. The Scandinavian countries and Holland also have turned to communal kitchens as a war measure.

With the evident theoretic advantages and with the successful operation of an increasing number of communal kitchens, it seems probable that this institution will survive the war as a definite and valuable factor in community life. The present trend of the servant problem, the increasing interest of women in extra-mural activities, the time and labor-saving qualities, will all prove powerful factors in making the system permanent.

It is interesting to note that the communal kitchen has met with practical success also in New York and environs. Here a standard dinner is served for fifty cents, with other menus more expensive. The food is delivered in aluminum containers with hollow walls, which nest together and are fastened by a clamped cover. Hot dishes are clamped together, and cold dishes together. The nests are delivered to the house, accompanied by the menu for the succeeding day. This menu is marked with the articles desired and placed in the empty container together with money or coupons, and collected later in the day. All containers are washed at the central kitchen. Such a central station costs from \$15,000 to \$20,000 to equip and open. This sum is raised by the people in the district who buy 6% shares at \$100 each.

The communal kitchen has doubtless come to stay and deserves more attention than it has so far received in California.

\* See A. L. Whitney, *Monthly Review of Bureau of Labor Statistics*, July, 1918.

## EDITORIAL COMMENT.

In view of the limited supply of platinum in the country and of the urgent demand for war purposes, it is requested that every doctor and dentist in the country go carefully over his instruments and pick out EVERY SCRAP OF PLATINUM that is not absolutely essential to his work. These scraps, however small and in whatever condition, should reach governmental sources without delay, through either accredited sources of the Red Cross or through any bank under the supervision of the Federal Reserve board. Such banks will receive and pay current prices for platinum. Do not give scrap platinum to an unauthorized agent.

According to the U. S. Public Health Service experience everywhere shows that the proportion of persons with physical impairments is considerably greater in persons between 30 and 40 than in those between 20 and 30 years of age. This waning vitality at ages over 30, so commonly accepted as inevitable, can be postponed to a large extent. In this connection, it is pointed out that 60 per cent. of the physical defects found in the last draft were of a preventable or curable nature.

The U. S. Public Health Service issues a circular entitled "Information for Guidance and Assistance of Registrants Disqualified for Active Military Service Because of Physical Defects." It is a four-page leaflet, containing specific information relating to the commoner causes of rejection or deferred classification, e. g., defective eyesight, teeth and disease, feet, underweight, overweight, hernia, hemorrhoids, varicocele, varicose veins, bladder, kidney and urinary disorders, ear trouble, heart affections, high blood pressure, lung trouble, rheumatism, venereal disease, alcohol, nervous and mental disease, and miscellaneous conditions. The information is presented in simple form and has been approved by the highest medical authorities. At the end is a striking quotation from President Wilson: "It is not an army we must shape and train for war; it is a nation." This circular may be had on request and deserves a wide circulation.

Dr. J. L. Mudd, of Merced, calls attention to the fact that in the July issue of the Journal, page 323, the number of physicians in Merced county was wrongly stated. It is a pleasure to correct the error and record that, of the twenty practicing physicians of Merced county, five, or 25 per cent. are now in service.

Your particular attention is directed to the articles appearing in the Department of Pharmacy and Chemistry by Dr. Felix Lengfeld. These critical and suggestive reviews are of real value to the busy physician who has neither time nor skill to adjudicate pharmaceutical values himself, and who runs, therefore, the risk of missing something of real value, or, on the other hand, of falling into an error of ignorance.

There are unmistakable signs that various political interests and aspirants are fully alive to the vote-getting qualities of the medical profession. It is surprising how many votes are influenced or even directed by the expressed opinions of physicians. Especially is this true in California, where equal suffrage allows women a just share in government. Certain recent examples show strikingly that the civic and political influence of physicians is a powerful weapon not to be held lightly by friend or foe. Consider these points in your daily round among patients and friends.

In a recent address, F. W. Shepardson, Illinois State Director of Registration and Education, states the evident fact that there are more fakers and charlatans in medicine than in all other trades and professions combined. This condition is, after all, not improving. We are minded, by way of comment, to recall the strange fact that custom and tradition decree that the medical profession should be alone and fully responsible for purifying its own ranks, and also should be chiefly responsible for the protection of the public against the pre-named fakers and charlatans. To be sure we ought to purify our own ranks. So far as we fail in this, do we deserve censure. But; we ought not to be taxed financially or otherwise with the full burden of protecting the public against the fakers and charlatans, of whom the great majority can claim no blood relationship to the medical profession. The public is to benefit and the public should pay for the benefit, in money, time, interest, education and men. It is unjust for doctors to foot the entire bill. Let the public and not the medical profession be directly responsible for the fakers and charlatans.

## FLIGHT SURGEONS.

For the care and conditioning of fliers in the air service the Government is now appointing a corps of doctors and trainers large enough to equip each training field and camp for fliers, both in the United States and in France. The doctors will be known as flight surgeons and the trainers as physical directors.

The medical branch of the air service is not alone confined to the selection of the flier but to his care and condition after he has been admitted to the service. It has become apparent that the flier is unlike other soldiers. In the air service he has become an intricate, highly sensitized piece of mechanism with troubles all his own. To keep his complex organism physically fit a special master mechanic had to be provided solely for him.

The flight surgeon, therefore, has been given freedom of independent initiative in all questions of fitness of the fliers. Subject to the approval of the commanding officer, he is expected to institute such measures as periods of rest, recreation, and temporary excuse from duty as may seem advisable. He takes sick calls of aviators; he visits such cases as may be in the hospital and consults with the attending surgeon regarding them. He makes the examination of candidates for aviation and lives in close touch with fliers.

The physical directors are assistants to the flight surgeons and their duty is to supervise such recreation and physical training of the fliers as is considered necessary.

## Original Articles

### SYPHILIS OF THE THYROID GLAND REPORT OF A CASE.\*

By EDWIN H. SCHNEIDER, Los Angeles, Cal.

Syphilis of the thyroid is one of the rarest diseases that affects this organ, but the fact that it does occur and may so easily be mistaken for carcinoma which occurs in about one per cent. of goiters, justifies my calling your attention to this subject.

In reviewing the literature on syphilis of the thyroid gland I find some authors do not mention it at all, others state it is very rare. Adami in 1911 mentioned that eleven undoubted cases are found in the literature. Twenty-three apparently authentic cases of tertiary syphilis of the thyroid gland have been reported to date: five by Mendel, three by Abraham, three by Demme, one each by Köhler, Pospelow, Thurnfield, Clarke, Barth, Gombault, Fraenkel, Davis, Poncet and Lerche, Clarke, Thompson, and a case in the Museum of the Royal College of Surgeons. Of these, only four cases, two of Mendel's, Clarke's and Poncet and Lerche's case, were diagnosed both clinically and histologically. American literature has produced only three cases, Davis's case proven histologically at post mortem, Clarke's and Thompson's case proven only clinically.

I wish to report a case of gumma of the thyroid gland proven clinically and histologically with the patient still living and well two years after operation.

Mrs. E. L. B., white, American birth, age 48 years, was referred to me by Dr. F. C. E. Mattison and examined March 29, 1916. Family history—Negative. Past history—Married at 19 years. Divorced seventeen years ago. Myomectomy seventeen years ago. Hysterectomy for fibroids three years ago. Goiter for seventeen years which disappeared with the onset of the present complaint.

Present complaint—Difficulty in breathing of three months' duration, becoming rapidly worse. Past three weeks must sit up in bed to sleep. Marked pressure sensation in throat during last six weeks. Hoarseness with brassy cough for seven months. Lost ten pounds in weight during past month.

Examination—Patient fairly well nourished, weighing about one hundred and twenty-six pounds. Skin of face pigmented, a muddy color, as seen in adenomatous goiter with intoxication. No evidence of myxedema.

General outline of neck normal except that on the right side in the region of the superior pole of the thyroid gland is a soft tumor mass with an indefinite outline about two centimeters in diameter. It is not tender or painful. There is no discoloration of the skin and it is not attached. The tumor was first noticed three and one-half months ago and has been enlarging gradually. With the appearance of this tumor, the goiter, present seventeen years, about the size of a hen's egg located in the mid-line just above the sternum, gradually disappeared and pressure symptoms were soon noticed.

The subcutaneous tissue from the lower border of the thyroid cartilage above to the sternum below and extending about three centimeters to either side of the mid-line was so hard that it was impossible to palpate the thyroid gland. In the angle over the sternum upon deglutition the top of a spherical tumor could be palpated. No cervical

lymph glands were palpable. The skin over the indurated area was not adherent and showed no evidence of inflammation. Nose and throat—Negative. There was no paralysis of the vocal cords. Heart—Pulse one hundred, regular. Heart dullness enlarged one centimeter to the left. No murmurs. Blood pressure—Systolic one hundred fifty. Diastolic eighty. Lungs—Negative. Abdomen—Negative. Pelvis—Body of uterus absent. Urinalysis—Specific gravity 1.012. Acid, no albumin, no sugar or casts. Pupils react to accommodation and to light. Neurology—Negative except that patient nervous and worried about her neck.

A diagnosis of adenoma of the thyroid gland with a probable secondary malignancy was made. The total absence of any enlarged lymph glands made a diagnosis of malignancy doubtful considering the extensive induration of the tissue overlying the thyroid gland.

An exploration was advised. March 31, 1916, under light ether anesthesia a collar incision was made and the skin reflected above to the lower border of the thyroid cartilage and below to the upper border of the sternum. The sterno-hyoid and sterno-thyroid muscles could not be recognized but appeared as a diffuse homogeneous mass of fibrous tissue extending from the thyroid cartilage to the sternum. The soft tumor mass two centimeters in diameter which was located in the region of the upper right pole of the thyroid gland proved to be a greyish putty-like softening of the muscle in this region. Separating the fibrous tissue in the mid-line in order to expose the thyroid gland it was seen that no thyroid tissue could be recognized and apparently the entire gland was a mass of fibro-cartilaginous tissue which was closely adherent to the thyroid and cricoid cartilages as well as the trachea. Dissecting down along the right side of the trachea to find the source of pressure which was so marked that the ether anesthesia had to be frequently discontinued, a circumscribed tumor two centimeters in diameter was found lying in a mass of fibrous tissue partly imbedded into the side of the trachea about one centimeter below the cricoid cartilage. Traction forward and outward upon the tumor immediately improved respiration and it was rapidly enucleated, having apparently but little attachment to the surrounding tissue. Very little bleeding occurred during the operation as all the diseased tissue seemed avascular. No other tumor could be found, and as the patient now was breathing normally it was decided the object of the operation was accomplished.

Pieces of tissue removed from the soft tumor mass in the muscle as well as in the region of the tumor adjacent to the trachea were removed for further examination. The skin was closed with a double row of subcutaneous cat gut suture.

Microscopically the tumor resembled an adenoma of the thyroid gland, and upon being cut in half showed apparently the same structure as one of these tumors which are so frequently found in the thyroid gland. The tissue removed was microscopically examined by Dr. Lorena Breed, who reported syphilis of the thyroid gland. The microscopic sections which may be seen later by those who are interested shows an irregular interstitial proliferation containing many embryonic connective tissues and some giant cells. The blood vessels all show obliterating arteritis. The thyroid tissue varies in areas from a total destruction by a fibrous tissue overgrowth to apparently normal acini, on a whole it takes the adenomatous type. The only area which shows caseation is in the sections from the muscle surrounding the soft tumor mass. The local softening of the sterno-thyroid muscle noticed at operation suggested gumma, so the next day blood was removed from the median vein of the patient and sent to Drs. Walter Brem and A. H. Zeiler for a Wassermann test. A report of Wassermann four plus positive was received. Increasing doses of potassium iodide were immediately ordered

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for the patient, with the result that the induration of the tissue over the thyroid gland disappeared within three weeks. Antisyphilitic treatment was continued until the Wassermann reaction was negative three months after discontinuing the treatment. It is now two years after operation and the patient, recently seen, considers herself well.

Inquiry about the time of the syphilitic infection brought out the fact that the patient had not mentioned anything about a possible venereal history because the second husband was present when the first history was taken. In a later history the patient stated that her first husband after returning from a three months' visit to New Mexico doctored for a running sore of the left groin, and a short time after that she began to have severe headaches starting at 3 A. M., accompanied by a sore on her tongue like a piece bitten off and a rash over her body. Her hair fell out and there was some nausea and diarrhoea. These symptoms subsided in a few weeks so she did not consult a doctor and had no treatment.

Considering now the luetic history, the slow development of a painless induration involving the thyroid gland and overlying muscle, the absence of any enlarged glands, the area of caseation in the sterno thyroid muscle, the general fibrosis of the thyroid gland and adjacent tissues, the histological picture of syphilis, the four plus positive Wassermann and the immediate therapeutic relief with no recurrence after two years I believe we have sufficient evidence to prove this a case of tertiary syphilis of the thyroid gland.

A most interesting fact we must not overlook is that the patient had an adenomatous form of goiter for seventeen years previously and therefore an abnormal thyroid gland when it became infected with syphilis. It is quite possible as Mendel has suggested that syphilis apparently only affects already diseased glands and that the iodine content of normal glands prevents the localization of the syphilitic virus.

In reviewing the reported cases of syphilis of the thyroid gland as to the presence of a goiter and as to its type I find it difficult to draw definite conclusions as to the presence of a previous goiter because only in the case reported by Mendel from Thiersch's Clinic at Leipsic in 1883 is it definitely mentioned that a goiter had been present twenty-six years previously. Most authors speak of recent tumors of the thyroid that histologically prove to be gummata or clinically disappear under anti-syphilitic treatment. It would seem then that tertiary syphilis of the thyroid may occur in two forms, a diffuse cirrhosis of the thyroid without tumor formation and a more frequent form with tumor formation.

I place my case in the class without tumor formation, as was the case reported by Davis, as the presence of the adenoma was merely a coincidence, although by interring with the iodine content of the gland probably the cause of the thyroid becoming infected.

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#### SEMINAL VESICULOTOMY IN THE TREATMENT OF GONORRHEAL RHEUMATISM.\*

By JAMES R. DILLON, M. D., San Francisco, Clinical Instructor in Genito-Urinary Surgery, Stanford University Medical School.

With increasing knowledge as to the origin of arthritis and the recognition that practically all cases are manifestations of some form of toxemia, more and more attention is being given to the recognized sources of infection. In the year 1901 Dr. Eugene Fuller reported on the technique and the results of his operations on the seminal vesicles. Genito-urinary surgeons were slow to appreciate the value of his teachings until they had learned to recognize the types of cases most suitable for seminal vesiculotomy. This report will consider only those cases having frank Neisserian histories and which presented arthritic symptoms and other systemic manifestations dependent upon focal infections in these organs and which could not be overcome by the usual non-operative methods of treatment, with the exception of two patients who were suffering so intensely from their rheumatism during the subacute stage of their urethritis that I operated to relieve their joint pains before the urethral condition was sufficiently treated.

The lumen of the ejaculatory ducts is relatively and absolutely larger than the prostatic ducts, therefore coincident vesicular infections must be at least as frequent as infections of the prostatic ducts and prostate. When we consider our anatomy and realize that less than 4% of vesicles have straight tubes and 96% have tubes of varying lengths and capacities due to twists and diverticula, we come to know that the chances of spontaneous cure are very slight and that resolution by natural drainage through the ejaculatory ducts is mechanically impossible. When therefore the vesicles become the foci of chronic inflammation and, because of this faulty drainage, the products of infection are retained within them under pressure, it is easy to understand how infectious emboli and toxins may gain entrance into the circulation and give rise to disturbances in other quite remote and apparently unrelated structures. The relationship of small dental abscesses, pyorrhea, sinus suppuration, tonsillar infections and rheumatic inflammations is now generally acknowledged and the cause of chronic arthritis is confidently sought for in these conditions.

In 1904 Fuller recognized the relationship of focal infection in the seminal vesicles to gonorrhreal arthritis and proved that surgical drainage of such foci resulted in a cure of arthritis. His conclusions

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have since been substantiated by several other genito-urinary surgeons, and it therefore becomes necessary in explaining a secondary arthritis to consider the seminal vesicles as a possible origin of the trouble. From the clinical standpoint the operative results of seminal vesiculotomy for gonorrhreal rheumatism have been uniformly most brilliant in all reports published. Patients who have been invalids periodically and constantly for months and years, some with mono-articular affections and others with multiple joints and tendon affections, have had their pains disappear permanently from the affected joints after vesiculotomy, on awakening from the ether, and even large swollen, painful joints have often become normal in appearance within 24 to 48 hours following operation. Periarthritis lesions improve much more rapidly than do intra-articular lesions.

Gonorrhreal rheumatism is generally considered to be due to a mixed form of infection. Just what part the gonococcus plays is still unsettled. Some credit it with being the chief factor because the germ has been found in the affected joints and bursae; others claim it plays but a minor role. Most surgeons have found the gonococcus regularly absent in chronic vesiculitis, and present only in acute suppurative cases. Squier reports obtaining almost constant growth of pyogenic bacteria. The gonococcus is apparently the original invading micro-organism and because of the localized inflammatory reaction which arises from its presence it is shortly joined and perhaps supplanted by a variety of pyogenic micro-organisms. The gonococcus may undergo mutation within the vesicles, depending upon the alterations in the environment, and may then show selective tissue affinity.

Individuals attacked by gonorrhreal rheumatism show a marked susceptibility to it, in that, if their first urethritis is complicated by rheumatism it is extremely likely that they will redevelop it not only with subsequent attacks of gonorrhea but also following surgical instrumentation or treatment which awakens acute inflammatory reactions in old quiescent lesions of the seminal vesicles. For this reason there must be some element other than mixed infection to account for the rheumatic complication.

Two distinct pathological changes have been observed. First the inflammatory reaction is limited to intrinsic changes in the vesicles and prostate in the early stages. The vesicles become swollen, distended and fluctuant with the production of inflammatory products and retained secretion with or without occlusion of the ejaculatory ducts and from retention of infectious products under pressure. The prostate becomes swollen and boggy from congestion with blood and infiltration with lymph. Barney found that pathological specimens obtained at operation show various degrees of inflammation in the same vesicle, acute abscess formation in various places, areas of hemorrhage, and much newly formed connective tissue, while other sections appeared perfectly normal.

Second, in the later stages, when these structures have harbored infection over a long period of time the surrounding tissues normally soft de-

velop a perivesiculitis and periprostatitis, become indurated and finally adherent to the thickened walls of the vesicles and prostate, and encase them in dense scar tissue and adhesions. When very extensive and diffuse this produces compression of vesicles, vas deferens, prostate and terminal ureters in which kinking may be produced. Also reactive changes take place in the form of basal cystitis or trigonitis. When one vesicle is inflamed it is usually shared in by the other due to their proximity at the junction with the vas, also when the vesicle is diseased its vas, especially the ampulla, is likewise affected. The seminal vesicles are often hard to palpate because of their small size but more often because of the plastic exudate in which they are imbedded. Many variations occur between these two types of pathological vesicles depending on the mode and character of infection. Also it must be remembered that the seminal vesicles may be only part of the trouble. Changes in the prostate or deep urethra may be as important in production of local or systemic symptoms as the vesicles and the results of drainage may be disappointing unless the prostate and urethra receive proper attention.

In considering the effect of the seminal vesicles on the sexual condition, Walker observed in rabbits that on extirpating the seminal vesicles, that the sexual capacity was unimpaired but the percentage of fertility was greatly reduced, and impregnation was more or less delayed. The seminal vesicles not only act as a reservoir for a portion of the semen but also have a special secretion of their own which is highly essential to the formation of normal semen. Barney (quoting Huet) states that in young animals, including man, the seminal vesicles are very rudimentary and comparatively undeveloped. Also in the aged after cessation of sexual activity and barring infection, the vesicles atrophy and resume more and more the resemblance to the child. Animals show distinct evidence of inactivity of the seminal vesicles after castration, also during hibernation in bats. On the other hand, during sexual excitement and just before coitus the microscopic picture is one of immense activity. All of which goes to show that the seminal vesicles and testes are interdependent and form with the prostate a procreative triad essential to posterity. For this reason the seminal vesicles should not be totally excised any more than the ovaries from a woman. A most satisfactory clinical result can be obtained by slitting the vesicles longitudinally and gently curetting them, and draining off the pus and infection and giving the diseased tissue a chance to heal. Fuller states that seminal vesiculotomy properly performed does not produce sterility, but on the other hand has frequently resulted in virility in cases where sterile marriage had previously existed.

Case 1. No. 10,029, T. L., Greek, cook, age 28 (present age). Came to the Stanford Medical Clinic December 19, 1913, complaining of sore feet. Family history negative. Past history negative, with the exception of several attacks of gonorrhreal urethritis. First one in 1910 cured in six months. Second attack in 1911, cured in six to seven weeks. During this attack he had rheumatism in the right knee and right ankle which swelled and became red

and painful. Cleared up in about three weeks. Had similar attacks in 1912 in the same joints. In November, 1913, the right ankle became red, swollen and painful, later, left sterno-clavicular joint. He got better under treatment at the French Hospital, but had relapsed four days after leaving. He applied at the Stanford Clinic and was treated in Lane Hospital for two weeks, with massage, silver nitrate irrigations and vaccines. He improved under treatment and was discharged January 3, 1914. Returned March 13, 1914, with profuse discharge appearing four days after intercourse. Many Gram negative diplococci present. Treated with permanganate injections, hot sounds and vaccines. Recovered and was well for two years, when a fresh urethral discharge appeared, five days after intercourse. Discharge stopped in about a week and rheumatism started in again in right ankle, left toes and right sterno-clavicular joint. Two weeks later left knee and ankle and right shoulder became involved. Treated at San Francisco Hospital with vaccines, massage and irrigations for three months with slight improvement. Reported at the Stanford G. U. Clinic September 7, 1916, complaining of pains in knees, ankles and shoulders. His tonsils were removed September 12, 1916. Treated in the clinic more or less constantly with massage, dilatation, irrigations, and instillations for ten months, until June 20, 1917. At this time his prostate was much enlarged, tender and nodular. Both vesicles were very large, hard and tender. Secretion, almost pure pus. Nearly every joint in his body was affected and he had not worked for over a year. A seminal vesiculotomy was done at the San Francisco Hospital June 26, 1917. Both vesicles were found distended and full of pus. Both were opened and curetted. Both lateral lobes of prostate were incised. Drainage tubes were inserted, and wound closed. On recovering from the anesthetic, patient stated he had no more pain and could move his joints freely. Bacteriological examination of pus obtained at the operation was negative. Discharged from the Hospital in four weeks and has been working since August 1, 1917. He was last seen in February, 1918, and stated he has had no disturbance in sexual power or sensation, and no joint symptoms. Both urines were clear in the two glass test.

Case 2. P. N., No. 25,789, American, 40 years of age. Family history negative. Past history negative except for general troubles. First gonorrhea when seventeen years old, does not think he was ever cured. It has broken out a dozen times since. It seemed he got a fresh attack every time he became intoxicated. He had inflammatory rheumatism seven years ago, for eleven months. He was in bed for six weeks and on crutches for three or four months. He entirely recovered from it. States that the rheumatism did not come in connection with an attack of gonorrhea. He had a chancre seven years ago and took one intramuscular injection of 606.

Present illness.—Contracted gonorrhea May 1, 1917. Got it cured and rheumatism started May 25, 1917. Started in right hip and in three days every joint in his body was affected—ankles, knees, hips, back, shoulders, collar-bone. He then went to the "Springs" for 5 weeks but noticed no improvement, so went to a herb doctor (Chinese) for two weeks, but grew worse. He came to the Stanford Clinic, August 9, 1917. Examination showed no discharge from the urethra. Urine, glass 1, cloudy, several shreds; glass 2, faint cloudiness; glass 3, clear. A smear of the urinary shreds showed considerable pus but no micro-organisms. Prostate slightly enlarged and very tender. The seminal vesicles were slightly palpable. Prostatic secretion showed 60 per cent. pus. Wassermann xxx. Three weeks' treatment with irrigation and massage did not help him. A seminal vesiculotomy was performed on him August 31, 1917. Bacteriological examination of pus ob-

tained at operation, negative. The pains gradually disappeared in about a week, but stiffness persisted for two or three weeks longer. He has been free of pain and working as a laborer at the Union Iron Works for several months. Patient was seen last month and reported that he was entirely free of pain. Both urines were clear.

Case 3. J. R., No. 56659, Irish, age 38, occupation miner. Family history, negative. Past history, typhoid and pneumonia, at 30. He had repeated sore throats before tonsillectomy in November, 1916. Had gonorrhea and four sores once, eight years ago. Treated himself with peroxide for one month.

Present illness.—In July, 1916, he began to have pain and swelling in both wrists, especially the left one, until he had to quit work. About six months later both elbows and knees became swollen, painful and stiff. At that time he was being treated with magnesium sulphate compresses externally and he took salts internally. He was given vaccines and his tonsils were removed. Condition improved so that he could get around again, but pain and stiffness persisted. Entered Stanford Clinics, July 20, 1917. Examination showed no discharge. The testes, cords, epididymis were normal. Urine glass 1, cloudy with many shreds and granules; second glass, slightly cloudy. The prostatic lobes were large, doughy and slightly nodular. The right seminal vesicle was matted and more palpable than the left. The prostatic secretion was almost pure pus. He was treated with massage, irrigations and vaccines for several weeks without any improvement. On September 8, 1917, a seminal vesiculotomy was done and the lateral lobes of the prostate incised. Bacteriological examination of the pus obtained at operation showed *staphylococcus albus*. The pains rapidly disappeared from all his joints in two or three days except the wrists, which improved more slowly. He was last seen four months after the operation and stated he felt fine except for a slight pain and stiffness in the left wrist in the mornings, which wore off after working a short time. Both urines were clear in the two glass test.

Case 4. E. M., No. 26699, age 36, laborer, American. Family and personal history negative, except for venereal history. He had his first gonorrhea in 1900, lasting five weeks. He was treated with pills internally. In 1910 he had a second attack lasting one month, also treated internally. He had his last attack in October, 1916, and three weeks after the onset the left sterno-clavicular joint became swollen, red and painful, and within a few days the left wrist, ankle and knee joints were attacked. He was treated in a hospital for six months with vaccines, permanganate irrigations, santon oil, and sounds, without showing any improvement. During the period of a year he had been bed-ridden most of the time and he still walked with difficulty even on crutches when he entered the San Francisco Hospital, October 9, 1917.

Examination showed a slight mucus discharge at the meatus. A smear showed no micro-organisms and only scattered pus cells. Urine, glass 1, clear, many mucus shreds; glass 2, clear. The testes, cords and epididymis were normal. The prostate was small, hard and very tender. The seminal vesicles were barely palpable and were very tender with considerable infiltration about them. No secretion was ever obtainable by massage. Wassermann negative.

A seminal vesiculotomy was performed and the prostatic lobes incised October 16, 1917. The pain disappeared from every joint within five days and he was able to walk at the end of two weeks without discomfort, except for a tenderness in the right heel due to a spur on the os calcis, shown by an X-ray. This pain disappeared almost entirely with a few bittings in an electric oven.

Bacteriological examinations of the pus obtained at the operation showed a gram positive bacillus and a large gram positive diplococcus. The patient has not been heard from since he left the hospital.

Case 5. J. W., No. 26641, German, age 35. Entered San Francisco Hospital, October 5, 1917. Family history: Mother died of tuberculosis at 38; brother died of tuberculosis, age 22. General health always good. He had scarlet fever, diphtheria and whooping cough before he was ten years old; pneumonia and typhoid four years ago; malaria twelve and six years ago. Ten years ago he had gonorrhea, followed two weeks later by joint pains which cleared up in about two months. Used alcohol to excess at times; tobacco excessive.

Present illness.—Gonorrhea started six weeks ago. Two weeks later pains started in hips and back, then went to left foot, which passed away in a few days and appeared then in the right knee joint, which became swollen and reddened. He still had a yellow discharge from urethra.

Examination: Discharge at meatus showing gram negative intracellular diplococci. Urine, glass 1, cloudy and many shreds; glass 2, slight cloudiness. Testes, cords, epididymis, normal. Prostate large and tender. Left lobe larger than right, and Median furrow shallow. Seminal vesicles palpable. Right knee swollen, reddened, very painful and tender. Considerable fluid in joint. Motion greatly limited. Left ankle tender. October 10, 1917, knee joint aspirated and 300 cc. of turbid fluid withdrawn. Four cc. of 10 per cent. argyrol injected into the joint. Smears and cultures of the fluid were negative for bacteria. Smear showed many pus cells. Considerable reaction followed the injection of the argyrol, and glass drainage tubes were inserted into the joint, allowing the escape of considerable purulent fluid. Also treated with hot air bakes and Bier bandage. Later leg was put in plaster cast. The gonorrhea had been treated with irrigations and massage, and the discharge cleared up, but the swelling and pain were still present in the knee at the time of the seminal vesiculotomy, October 30, 1917. The right seminal vesicle was greatly distended and filled with a purulent fluid. The lower end of the seminal vesicle and vas were encased in dense fibrous tissue. The left seminal vesicle was atrophied into a hard cord and closely adherent to vas in a thick sheath of fibrous tissue. The left seminal vesicle was removed. The ampullae of the vasa were incised, also the lateral lobes of the prostate.

Patient stated all pain was gone from knee when he awakened from the anesthetic and the swelling entirely disappeared within a few days, but the urethral discharge reappeared on the third day after the operation. He left the hospital, November 19, 1917, with the knee in a normal condition but with a slight urethral discharge.

The smears of pus taken from the seminal vesicles at the operation showed gram negative, biscuit-shaped diplococci from each side, but the cultures were negative.

Three days after leaving the hospital this patient reappeared at the clinic with a return of his arthritis in his right knee and with a profuse discharge which showed no gonococci and no acid-fast bacilli. Urine in the two-glass test—both very cloudy. He denied taking alcohol and re-exposing himself. He has been treated with permanganate and silver nitrate irrigations, and with prostatic massage and instillations, with considerable improvement in his condition, but the prostatic secretion is still heavily laden with pus. On several occasions since the operation the prostatic fluid has contained live spermatozoa, showing the vasa are patent.

This patient was one of the two exceptions noted above who was operated on while his gonorrhea was in the subacute stage, and though the immediate effect of the operation was very grati-

fying, as soon as the perineal drainage stopped and he was given his liberty outside the hospital he rapidly had a return of his symptoms. Possibly if he had been kept quiet in the hospital a few weeks longer, and his urethra and prostate given proper attention, the operative result would have been permanent.

Case 6. J. D., age 37, No. 27641. Entered November 20, 1917, San Francisco Hospital. Complaint, rheumatism. Father died of alcoholism; mother drowned. Mumps, measles and chickenpox as a child. Gonorrhea three times, last time in 1910. Denies chancre and secondaries. He was treated in Stanford Clinics for chronic prostatitis from July, 1916, to May, 1917. He returned with the complaint of rheumatism November 7, 1917, having pain in his shoulders, elbows and knees for more than three months. Tonsillectomy when young. Married, one healthy child.

Examination: No discharge. Urine, glass 1, clear, many fine flocculent shreds; second glass, clear. Testes, cords, epididymis, normal. Prostatic secretion 50 per cent. pus. Prostate tender, nodular, slightly enlarged. Both vesicles distended and tender. Seminal vesiculotomy done November 24, 1917. Both vesicles very friable and surrounded by a hard fibrous sheath. Prostatic lobes incised and drainage tubes inserted. Patient on awakening from the anesthetic stated his pains were gone and has had none since. He could move his arms freely after operation, before he could not touch his head with his hands. Discharged from the hospital 18 days after the operation. He reported February 15, 1918, feeling fine as far as the arthritis was concerned. He has been impotent for several years, but since operation he stated that he had "slight signs of life." Bacteriological examination of culture taken at operation, negative.

Case 7. H. J., Norway, single, stevedore, age 37, No. 28743, San Francisco Hospital, January 31, 1918. Complaint, rheumatism, stiffness and pain in joints. Family history: Negative. Malaria five years ago; gonorrhea four years ago. Denies chancre and secondaries. Alcohol to excess at times; no tobacco.

Present illness.—Began four years ago, in 1913, when patient contracted gonorrhea. It discharged for two months. He was at sea at the time, and while using injections the discharge suddenly stopped and the left testicle swelled up. One month later he began to have stiffness and pain in the right ankle. No swelling or tenderness. In a few days it shifted to the left ankle. Then the right knee became involved, followed by the hips, shoulders and elbows. He never had any fever or sour sweats. He has worked off and on during the last four years, but joints would get worse after working hard. Has never been in bed on account of rheumatism. For the last year he has had pain in region of heart at times.

Examination: Well developed and nourished man. Defective gait due to pain and stiffness in ankles. Teeth in poor condition. Many old roots in upper and lower jaws and marked pyorrhea alveolaris present. Tonsils enlarged and cryptic. Urine, glass 1, clear, many shreds; 2, clear. Both epididymis enlarged, hard nodular, especially the left. Testes, normal. Left cord thickened, no tenderness. Prostate much enlarged, especially left lateral lobe and slightly nodular. Left seminal vesicle enlarged and surrounded by considerable infiltration. Right hardly palpable. No prostatic secretion obtained. February 4, 1918, seminal vesiculotomy done and prostate incised under spinal anesthesia, two grains of tropococaine being used. Two hours after operation patient stated that all pains had left his joints and that he could move his arms freely without discomfort. One week later a yellow discharge appeared at the meatus, showing a gram positive extracellular diplococcus. Cleared up with permanganate irrigations. Drain-

age tubes removed on the eleventh day and patient discharged on February 28, 1918. Last seen on April 1, after working for weeks with no recurrence of rheumatism or urethritis. Bacteriological examination of cultures taken at operation, negative.

Case 8. C. S., 46143, American, carpenter. Entered Stanford orthopedic clinic, September 13, 1916. Complained of pain in hips, back and feet, of two weeks' duration. Several attacks of gonorrhea, last one in 1906, which took six months to cure. Similar attack of rheumatism in 1909.

Examination: No discharge; testes, epididymis, normal; varicocele left cord. Urine, both glasses clear; first contained fine shreds. Prostate slightly larger than normal, quite tender. Left lobe at base is hard and indurated. Right lobe more indurated at apex. Seminal vesicles not definitely palpated on account of so much infiltration. Very little prostatic juice ever obtainable, but pus always present. He walked with a marked limp due to contractions in the left hip joint, shortening the left leg about two inches.

This patient was treated with dilatations, massage, irrigations, instillations and vaccines off and on for eighteen months, getting better at times and working a while, but never free from pain. He entered the hospital and a seminal vesiculotomy was done February 12, 1918. Around the base of the prostate and encasing the vesicles and ampullae of the vasa was a dense, tough, massed fibrous tissue fully a quarter of an inch in thickness, adjoining the prostate and thinning out toward the ends of the vesicles. On dissecting out the vesicles they were found to be greatly distended with a purulent secretion and surprisingly large in size, considering that they could not be distinctly palpated per rectum. Within twelve hours the pains left his feet and legs, and more gradually left his back and right hip during the next ten days. The left hip persisted in troubling him. An X-ray showed considerable tilting of the pelvis and contraction of the muscles in the left hip, with rarefaction in great trochanter of the femur, suggesting a tubercular process more than a gonorrhreal condition. However, the joint readily responded to electric bakes, the contraction loosened up, the pelvis became more straight and the left leg lengthened to almost normal. He left the hospital about a month after the operation entirely free of pain. The bacteriological and pathological specimens were lost.

Case 9. G. G., No. 59927, Greek, age 28. Entered Stanford Clinics, November 2, 1917. Complaint, pains all over. First gonorrhea nine years ago. Epididymitis during this attack. Four years ago second attack, discharge stopped in a few days and six weeks later pain started in the right hip, then went to the left and has been in one or the other ever since. Third gonorrhea about a year and a half ago. Cured in three months. Last attack two and a half months ago, and after two weeks pains appeared in ankles, muscles of legs and neck and hands.

Examination: Slight mucus discharge, showing many pus cells but no micro-organisms. Left epididymus enlarged and nodular. Urine, glass 1, clear, few large shreds; 2, clear. Prostate soft, very tender. Right seminal vesicle thickened and very tender. Considerable infiltration. Secretion showed 20 per cent. pus. He was treated in the clinic for his urethral and prostatic condition for six weeks with only slight improvement. As he had pulmonary tuberculosis he was sent to the San Francisco Tuberculosis Hospital, where he gained in weight and strength, and improved his pulmonary condition and cleared up his urethritis, but his pains still persisted.

A seminal vesiculotomy was performed February 22, 1918, starting under spinal anesthesia of tropococaine, two grains. The bony pelvic outlet was very narrow, and the prostate and vesicles

rather high, making the operation more difficult than usual and requiring greater traction. The spinal anesthesia wore off in an hour and the operation was finished under gas and ether. The vesicles were greatly distended with a thin purulent secretion and surrounded with a moderate amount of soft infiltration which bled profusely. The prostate was also very hyperemic. The lateral lobes were incised. The bacteriological examination of the vesicular fluid was negative. The pains disappeared almost immediately from the legs and arms, and more slowly over a period of two or three weeks from the hips. He is still in the Tuberculosis Hospital, free of pains, except for a complaint of weakness and aching in his back.

Case 10. J. P., Porto Rican, age 35, No. 28955. Entered San Francisco Hospital, February 12, 1918. History negative, except for venereal history. Gonorrhea first time three years ago; discharged for two years. Second attack, present one. Denies chancre and secondaries.

Present illness.—Has had an active gonorrhreal urethritis for the last three months. Rheumatism set in about two weeks previous to entering the hospital, with a chill and fever, followed next day by pain and swelling in right foot and knee. Then it went to the shoulders, elbows, wrists, and later the mandibular articulations and left leg. Profuse sweats every night. Never had a sore throat.

Examination: Teeth in very poor condition. Marked pyorrhea present. Patient could not open mouth to have throat examined. Nearly every joint in the body was swollen, painful and very tender. Profuse urethral discharge, showing many gonococci. Testes, cords, epididymis normal. Wassermann xxx. He was treated with salicylates, colchicine, electric bakes, methyl salicylate compresses to joints and permanganate urethral and bladder injections. He was somewhat improved after four weeks' treatment, but still in so miserable a condition and was losing weight so rapidly that a seminal vesiculotomy was done on him March 8, 1918, though he still had a slight urethral discharge showing occasional gonococci. Three days after the operation all pain had disappeared except in the right ankle. At the end of two weeks he had slight pain in the right knee. Aspirated about 30 cc. of turbid fluid from the right knee, which showed pus cells but no micro-organisms. Cultures also negative. Arthritis has since entirely cleared up, but slight urethral discharge has persisted and on April 8, one month after the operation, a right epididymitis developed. This was the second case operated on in the more or less acute gonorrhreal condition, and though the final result has not yet been attained, the patient was quickly relieved and is now in a very comfortable state.

#### SUMMARY.

First. Seminal vesiculotomy appears to be a justifiable and indicated procedure in cases of gonorrhreal arthritis which have failed to show a reasonable improvement after the acute and subacute urethral conditions have been cleared up by the usual methods of treatment.

Second. The first three cases and two of the later cases have reported that there was no impairment in the sexual function.

Third. The bacteriological etiology was rather indefinite and unsatisfactory. Probably more will be accomplished in this study by using the Rosenow method in obtaining and caring for the specimens.

Fourth. The clinical results of the operations

were satisfactory and very much appreciated by the patients, with the exception of Case 5.

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**DISEASE OF THE AORTA AS SHOWN BY FLUOROSCOPIC STUDY.**

By SAMUEL ELLSWORTH BAILEY, M. D.,  
Berkeley, California.

During the past year, I have been handling the work of the x-ray department of Fabiola Hospital and many kinds of cases have passed through my hands for diagnosis or treatment, nearly all being cases referred by other physicians. The hospital fortunately has an adequate roentgenological equipment of which an excellent fluoroscope is part. Much use has been made of the opportunity thus afforded and a large number of cases screened routinely.

While all parts of the body may be examined roentgenoscopically, the fluoroscopic shadows or images thus obtained vary greatly in value and significance. Of all such shadows, those cast during fluoroscopic examination of the thorax give the most definite information and yield the most satisfactory and suggestive results. This is due to the slight resistance offered by the lung tissue and the great contrast between the latter and the heart and great vessels. As an additional consideration, there is the mobility of the chest wall, the diaphragm, and the pulsation of the heart and great vessels. The images or shadows cast by these moving parts give definite, discernible outlines and contrasts that cannot be obtained in organs comparatively static.

In fluoroscopy of one hundred and fifty odd patients of all ages, there have been eighteen cases that showed definite fluoroscopic evidence of aortic disease. In a majority of instances there were no physical signs or symptoms directly referable to the vascular system and certainly not to the aorta. Many of the cases were observed incident to the course of a roentgenological examination of the gastro-intestinal tract; in some there was clinical suspicion of trouble "somewhere" in the chest.

The conditions ranged in severity from purely functional cases of dilated heart with accompanying dilated aorta (recovering quickly under rest, etc.) through cases of moderate organic dilatation both with and without the deposition of calcareous

plaques (often easily visible in the screen) to small, unimportant dilatations and shallow aneurisms—finally to very large life endangering aneurisms.

It will be observed that the Wassermann reaction was positive in six of the eighteen, negative in ten and undetermined in two of the series. Seven of the cases are under forty years of age; of these seven, five gave positive Wassermanns, one a negative and one was undetermined. Eleven cases are over forty; of these only one, a woman, gave a positive Wassermann. In the five cases under forty with positive Wassermanns there were definite small sacculations in all but one case, this in a young man of twenty-seven who, however, had a dilated aorta (8 cm.) with calcareous plaques and these predominately of the ascending and transverse arm of the aorta. The ten cases with negative Wassermanns are with one exception all over forty and mostly over fifty. In these elderly people, the small aneurisms, often without symptoms or signs occur practically always in the transverse or descending portion of the arch and are incidents of an arteriosclerotic degeneration, whereas the luetic type more commonly affects the ascending aorta.

Aneurisms are accidents due to the chance occurrence of a lesion in a large vessel with a relative disproportion between the pressure of blood in that vessel and the thickness and tensile strength of that vessel's wall. Many small lesions occur in small arteries and sclerosis with obliteration of the vessel occurs. This cannot happen in large vessels like the aorta. The size and extent of the resulting aneurisms are determined by the pressure and direction of flow of the blood stream and the character of the surrounding tissue.

In syphilis with the usual accompanying high blood pressure and active mesaortitis, the aneurism is apt to become rapidly and progressively larger with early rupture; in the small incidental aneurisms of arteriosclerotic type, unless there is coincident high blood pressure from other cause, e. g., nephritis, there may be little or no progressive increase in size—in fact, arrest may and does frequently occur. The majority of statistics give as luetic 60% to 85% of aneurisms. Hausman is the only man who deprecates this cause, giving only 18.7% as syphilitic (quoted from Adami). This figure naturally represents varieties which have been recognized clinically and which are usually fairly rapidly fatal.

The particular point to which I wish to call attention is that there exist many small dilatations and aneurisms which are clinically unrecognizable for many years; that these are mostly non-specific and may present no symptoms or signs, or at most indefinite and trivial ones. That eventually they may become a menace to the health or life of the individual due to progressive arterial degeneration or the incidence of increased blood pressure due to intercurrent disease, e. g., nephritis or sudden strain from muscular exertion or extreme emotion. Their early diagnosis is only possible by means of x-ray examination and particularly fluoroscopic examination since here the amount of pulsation and the elasticity of the aortic wall may be estimated. Early

There follows a brief outline of the cases, together with a schematic chart arrangement:

No.	Sex	Age	Clinical	Fluoro-Diagnosis	Wassermann
1	M	35	Suspected	Small of ascending	Positive
2	F	68	Unrecog.	Large of transversal	?
3	M	48	Unrecog.	Small of trans. and desc.	Negative
4	M	50	Unrecog.	Sac. of trans. and dec.	Positive
5	F	45	Suspected	Small of abd. aorta	Positive
6	F	43	Unrecog.	Dilatation	Negative
7	M	36	Unrecog.	Small fus. asc.	?
8	F	31	Unrecog.	Mod. asc. ao. and dilated	Positive
9	M	27	Unrecog.	Dilated aorta 8 cm.	Positive
10	M	38	Recog.	Large fusiform asc.	Positive
11	F	68	Suspected	Dilatation with plaques	Negative
12	M	40	Unrecog.	Small asc. ao. fusiform	Negative
13	M	45	Unrecog.	Diffuse dilatation	Negative
14	M	60	Suspected	Small sac. of arch	Negative
15	F	38	Unrecog.	Shallow of trans. and des.	Negative
16	M	35	Unrecog.	Dilated fusiform	Positive
17	M	60	Suspected	Dilated trans. sac.	Negative
18	M	56	Suspected	Dilated	Negative

diagnosis of such conditions would permit a timely warning to the patient so affected and might thus materially lengthen life besides being an immense source of satisfaction to the physician.

Routine fluoroscopic examinations are suggested as a valuable auxiliary to life and industrial accident examinations; they should be employed as a means of estimating the extent of the damage in known cases of arteriosclerosis and should particularly be made in arteriosclerosis known to be of luetic origin, since here early fatal aneurisms are

most prone to occur; in heart cases such examinations may be used as a control to therapeutics and as a check on clinical signs.

If in doubt, see, as well as feel and hear, and common experience teaches that information thus obtained tends to strengthen rather than weaken the acuity of perceptions gathered by methods of palpation, percussion, and auscultation, for it as frequently confirms as denies impressions so gained and thus links visual with auditory and sensory perceptions.

#### TREATMENT OF SYPHILIS OF THE CENTRAL NERVOUS SYSTEM.\*

By RICHARD W. HARVEY, M. D., San Francisco, Instructor in Medicine, University of California Medical School.

##### TREATMENT OF SYPHILIS OF THE CENTRAL NERVOUS SYSTEM.

My object in presenting this paper is to discuss the treatment of lues of the central nervous system with the emphasis on vigor and thoroughness. We all know how discouraging has been the prognosis and how inadequate our treatment. I insist that we have lacked woefully in thoroughness of treatment, and in recognizing that every case of primary lues holds the potentialities of central nervous system lues; and it is in the early stage that we should begin treatment and force it hard.

How often has a primary sore, followed by secondaries, received a single salvarsan, sufficient to dissipate the rash, and a few inunctions or injections, with or without K. I.! The subject has interested me during several years' experience in the Nerve Clinic of the University of California Medical School, and I have gone over a large number of records to discover just how much treatment the average tabetic or cerebro-spinal luetic has received before seeking our aid. Fifty-three out of a hundred patients admitted a primary sore, ranging from four months to thirty-seven years before coming to us, the average being sixteen years. Of these, some described secondaries, but in all the histories the ratio stood twenty-nine to one hundred who had had secondaries. The great majority of primary infections occurred years before the Wassermann test was known, but seventeen patients out of a hundred had had

the blood tested. Forty-five out of a hundred had been treated in some form or another ranging from cauterization to salvarsan; but not a single instance of treatment could be characterized as *vigorous, consistent, and adequate*. This is, indeed, startling! Is it any wonder that we who have treated nervous lues have followed a forlorn hope, and have thrown up our hands in despair of mastering the problem?

What is the reason for this acknowledged failure? We must look for it in our own negligence or carelessness or lack of far-sightedness. Perhaps, too, we have been swayed by the patient's indifference and have failed to secure his co-operation. It is true that the recognition of paresis and tabes as of syphilitic etiology is a comparatively recent development; but we find the tendency too free, even to-day with our knowledge of Noguchi's work, to neglect the luetic patient in early stages and to limit the treatment to a few doses of salvarsan and a little mercury. Economic conditions, of course, contribute to this delinquency. The patient regrets the loss of time and money in pursuing his treatment, and I regret that it is too true that many physicians with their knowledge of the disease and of its chronic, progressive nature, fail to take the time and trouble to explain the necessity for adequate treatment, and to strive for the patient's co-operation.

In examining the treated cases in my series, mixed treatment was recorded in the largest number, but fourteen out of sixteen received one year or less. Salvarsan was administered in thirteen cases out of a hundred, five receiving two doses, three receiving three doses, and one as many as nine doses. The greatest number of mercury injections received was forty-three. A single intrapulmonary treatment had been administered.

In tuberculosis the layman has some knowledge

\* Read before the Forty-seventh Annual Meeting of the Medical Society of the State of California, Del Monte, April, 1918.

of treatment: that it is hygienic, based on rest, fresh air, and food, that it requires much time, persistence, and considerable expense. Why cannot his co-operation be obtained in syphilis so that he may insist on vigorous, sufficient treatment?

Cases of rapid involvement of the nervous system following the primary should teach us to bear in mind the necessity for frequent clinical examinations. A case in our clinic developed paresis nine months after the initial sore. A case in my series showed forty-eight cells per cu. mm. in the spinal fluid three months following the chancre. A case admitting a chancre six months before, developed a facial paralysis, dizziness, and headache, and gave a + + + Wassermann in the spinal fluid. We know that the spinal fluid is positive in thirty per cent. of cases with secondaries. Any case giving a history of headaches and dizziness should lead us to examine for altered reflexes or changed sensations. We should be on our guard for symptoms of lassitude, nervousness, loss of weight, night sweats, fever, rheumatism, sphincter disturbances, and stomach trouble.

Treatment of syphilis of the nervous system should be controlled by frequent laboratory tests. The blood Wassermann should be done at six-months' intervals, and by the use of a simple antigen and a cholesterol reinforced antigen, the efficacy of treatment may be followed. With a cholesterolized antigen the blood in a treated case will remain positive long after it is negative with an alcoholic or acetone insoluble antigen. In examining the spinal fluids a diminished cell count and negative globulin is encouraging, but a progressively diminishing fixing power of the spinal fluid in the Wassermann test is of extreme value and interest in scientific treatment.

At the university we have found the colloidal gold test of very great value in diagnosis of central nervous system lues. In treatment, the curve remains very nearly constant in paresis, but in tabes and cerebro-spinal lues it changes progressively until it becomes negative. This point is of importance in differentiating paresis. The mastic test is of value in diagnosing luetic conditions of the spinal fluid, but is not so delicate as the colloidal gold.

The cases of paresis in this series came to us complaining of mental and general symptoms, such as, loss of memory, drowsiness, insomnia, failing health. The clinical findings were mental changes, tremors, Argyll-Robertson pupils, active reflexes, ataxia, and sensory changes. The blood in all cases was strongly positive. The spinal fluid was strongly positive, the cell count averaged under thirty-five, globulin positive, and gold chloride curve positive for paresis. In treating these cases we have been struck with the constancy of the positive colloidal gold curve, while the other tests have shown improvement. We feel that salvarsan and injections are the best treatment. The end seems to have been hastened in our patients treated with intra-spinal injections. One of our patients, a tabetic, developed paresis while he was having most vigorous treatment intraspinally.

Forty-three cases in one hundred were tabes

and twenty-seven cerebro-spinal lues. The usual complaints were pains, dizziness, and difficulty in walking. The clinical findings were Argyll-Robertson pupils, absent or lively reflexes, sensory changes, and positive Romberg. In a large majority of cases the blood and spinal fluid gave positive tests. We have had best results in diminishing symptoms by administering salvarsan, together with inunctions and injections of mercury. We have observed several of these cases for three years, during which time laboratory findings have become negative, but in most instances the symptoms have persisted or become worse.

Cases of cerebral lues or syphilitic meningitis with severe headaches, dizziness, and eye-muscle palsies have done best under salvarsan administered at weekly intervals. We have managed to secure the co-operation of several of these patients, and have followed the salvarsan with inunctions and injections after the signs of acute infection have subsided.

We have used the Swift-Ellis and Byrne methods about equally and with the same results. We have found intra-spinal treatment tolerated by most patients, but in some cases the reactions have been so severe that the administration has had to be discontinued. We feel this method is not justified except in cases with severe root pains and crises. In any event, administration should be controlled by repeated spinal fluid examinations. Numerous investigations have shown how the Wassermann, cell count, and globulin diminish under intra-spinal medication, and with this improvement occurs a lessening of pains and crises. This form of treatment should be given, however, only by men with proper laboratory facilities, and willing to spend the time and take the trouble to control their administrations.

#### CONCLUSIONS.

Vigorous and prolonged treatment of every case of syphilis is the best guarantee against involvement of the nervous system. The co-operation of the patient should be secured at the outset, he should have explained to him the chronicity of the disease and its dire results. In some cases it will be best to direct him to a clinic where the charges are small and the case can be observed continuously for a long period of time. Physicians away from the cities have the State Hygiene Laboratory at Berkeley for their Wassermann tests and laboratory work, so that the excuse can not be made, as it has been made to me in several instances, that a Wassermann was not done because of the expense and the lack of facilities. In the cases that have come to us at the University for treatment there has been a shameful lack of treatment. I desire in this paper to leave with you this one impression: that in a great majority of syphilitics treatment has been insufficient, that it becomes the duty of the physician to secure better co-operation in the patient, and that everything we do along educational lines will tend to prevent the development of nervous syphilis which presents such a discouraging outlook.

## CONSERVATION OF CHILDREN.

By JOHN CRAWFORD, M. D., Santa Paula, Cal.

The death rate of children under five years of age in the United States is close to 300,000 per year. If our losses from the war were that great we would think it a great calamity, yet our children slip from us one at a time and we hardly miss them. There is no better time than now to talk about the conservation of our children. The lives of our men are being sacrificed, a goodly number of those who return, will return physically unfit, then what will we depend upon for the future strength of our Nation? The logical answer is that the babies of this generation are the citizens and soldiers of the next. In them lies our greatest hope, our greatest asset, and our Nation's future strength.

I have been in the practice of medicine more than thirty years, and during that time have seen many babies born, and die. Have seen more die than should have died under proper care and management. We know that the death rate among the poorer class of patients is too high, and yet to this class we look in large measure for increase in our man power which is being depleted so rapidly. If we are depending on the poorer classes to increase our man power, then our duty as physicians is to do every thing in our power to make their lives easier and better. The state tries in every way to give us better potatoes, corn, apples, and citrus fruit, and looks after our live stock, and farming industry, but what do we as a state or county do for our children? We have farm advisors, horticultural commissioners, bee inspectors, weight and measure inspectors, all drawing state and county salaries, while in Ventura county we do nothing for the betterment of our babies.

Mr. A is a man who has never added anything of value to our state or country, has lived a life of drunkenness and squandered his income by dissipation and riotous living. Reaching old age, the county takes him in, feeds and cares for him, and when he dies buries him. Mr. B is the father of six or eight children, sober, honest and industrious, yet poor, his wife broken down by hard work and the care of the children, never a day to call their own, the children know nothing but poverty and work from day to day in order to make a meager living; what does the state or county do for that man or his family? If the man was to die, the wife could draw a small state or county pension for the support of her family. If the rich and well-to-do people are not going to raise families, as statistics show, then it is their duty, and our duty to see that these poor children are taken care of. If we raise our children for the support and defense of our country, and our country has a right (which I think it has) to take our children, then it is the country's duty, and the state's duty, and our duty, as physicians, to do everything in our power to make those children as nearly 100 per cent. efficient as we know how. Now how can this be done in order to save more of our babies, and make them better men and women for our country?

First, I would give every needy mother a pension for the care and support of her children up to a certain age. I would pension according to the number of children, making the pension for the first two or three very small, and increase as the number increases. In that way the poor people would be assured of some protection and care for their children, and it would eliminate to some extent the dread of child-bearing. The pension system would make better men and women, increase our man power, place us more on an equality, give us better education as a nation, and would eliminate a great deal of poverty, illiteracy and crime, as crime is often the result of poverty.

In the second place every town should be provided with a small cottage children's hospital, where a sick child could be taken and cared for at the minimum of expense. A ward should also be arranged where the mother could take her child and care for it herself, under the instruction of a good nurse, whose duty it should be to see that the mother fully understood the physician's orders, and followed them. Such a home could be arranged at moderate expense, and any deficiency in the management could be met by the county.

Thirdly, each county in the state should have a dietetic nurse. In Ventura county she should be able to speak Spanish as well as English. Her duties should be to go over the county, the same as the farm advisor, and give practical demonstrations on the preparation of food for the children, the care and handling of milk, bottles and nipples, bathing and care of babies, and the danger of contaminations by flies and filth. Whenever we get the mothers educated to give their children proper food and care, and to segregate sick children from well, and to properly quarantine contagious diseases, and convince them of the danger of exposing their children to contagions, a great part of the conservation of children will be accomplished. An ideal way for the nurse to travel would be by an automobile converted into a truck, with a cabinet kitchen built on, completely furnished with all necessary equipment, including a gas stove. By such an outfit she would have an independent way of travel, and would always be supplied with necessary equipment for her demonstrations. The effect of such an education on the young women of the country would soon be shown by the death rate of our babies. Many of these women are ignorant, but they want to, and will learn if given an opportunity.

Fourthly, a committee of three physicians should be appointed by the president of this society, to get up a little pamphlet, to be printed both in English and Spanish, for the expectant mother, and the care of her child.\* This pamphlet should be signed by the Ventura County Medical Society, also countersigned by the physician giving it out. At the time of birth, a complete record of the child should be made by the attending physician, as to name and nationality of parents, sex, weight, length, and general physical condition of the bones, spine, lungs and heart, in duplicate, one for the

\* See editorial September issue on Child Welfare.—Editor.

mother and one for the physician. Every three months thereafter the mother should bring the child to the physician for a thorough examination, for the condition of growth, development of muscular system, the bones, lungs, heart, throat and digestive organs, spine and mental condition of the child, should be registered, once more in duplicate, one for the mother and one for the physician. This should be continued until the child is at least six years old. The advantage of a duplicate registration would be for the mother, if she changes her location, or changes physicians. By keeping such a record, it would show the mother, as well as the physician, the growth and condition of the child, and stimulate more of an interest in its welfare. It would also enable the physician to keep in better touch with his patients. The birth of the child should be promptly put on record, also the death, for only by comparison is our success or failure known. The child at some time during the first year should be vaccinated, and, if a male having a long prepuce, should be circumcised, for elimination of diseases as well as for cleanliness. By so doing we will have taken a long step toward the conservaton of our children.

#### DIVERTICULA OF THE FEMALE URETHRA.\*

J. CRAIG NEEL, M. D., San Francisco.

The importance of diverticula of the various viscera has been especially emphasized during the last few years. While some structures are thus affected more frequently than others, there are authentic cases on record in which sacculations have formed in practically all the hollow viscera.

By urethral diverticula or pouches, we mean cavities of larger or smaller size which communicate with the urethra and at times contain urine. In general, they may be classified into true diverticula and false diverticula; the former are lined with urethral mucosa while the latter have no definite lining membrane but extend into the paraurethral tissues.

In 1867, Priestley<sup>1</sup> published a typical case and gave an excellent description of the clinical history. When his patient was eight months advanced in pregnancy, a swelling appeared at the orifice of the vagina, which was not very sensitive to touch, but was attended by forcing pain, and a sense of something about to protrude. When labor came on, a soft tumor, like a small egg, was found attached to the neck of the bladder, and projected into the vagina. Although all possible care was exercised in supporting it during the passage of the foetal head, the pressure to which it was subjected had the effect of bursting it, and a quantity of thick fluid was discharged by the urethra. No further discomfort arose from it at the time, beyond some slight irritation of the bladder; but when she began to go about again, the swelling reappeared as before, and from time to time discharged a quantity of semi-puriform matter.

"On examination, an elastic swelling of the size

of half a hen's egg was found lying in the vaginal orifice. It was not unlike a cystocele, but was rounder in form, with a narrower base and it was attached not to the bladder, but to the posterior wall of the urethra. On squeezing it, a mixture of urine and pus flowed from the urethra to the extent of half an ounce, and the swelling collapsed. On passing a probe along the urethra, it passed first into the bladder but by a little manipulation, it entered a small orifice leading to the cyst and the point was felt in the cavity of the cyst through the anterior vagina wall. The tumor did not form again until the next time for emptying the bladder, when a portion of urine always passed into the cavity, which seemed like a diverticulum in the course of the urethra." Temporary relief was obtained by the use of an especially designed pessary.

Two other cases were reported by Priestley; one in which sebaceous-like material was discharged from the urethra; and the other one presented a cyst in the anterior vaginal wall, directly under the urethra but showed no communication with it. He considered their origin to be from pre-existing glandular structures of the urethra.

In 1875, Lawson Tait<sup>2</sup> reported one case in which the diverticulum was excised and found to be lined with mucous membrane. Also, in 1885,<sup>3</sup> he reported three other similar cases. Regarding the etiology, he states: "The first, and I think the most likely of these is that there is, as the origin of this condition, an error of development by which a small off-shoot of the urethra, like a diverticulum of the intestine, is the result of faulty union of the perineal folds, and that this becomes of pathological importance when women become accustomed to those errors of urination to which they are all more or less addicted. The second explanation is that this urethrocele is formed by the union between the urethra and a cyst of pathological origin in the roof of the vagina. But I am disposed to regard the former as the more likely of the two from the extraordinary similitude which all my four cases have presented and from the fact that I have never seen any cysts at all like them in a position that such a communication with the urethra might take place."

Routh,<sup>4</sup> in reporting three cases, says: "Their etiology seems to be (1) closure of the ducts of pre-existing urethral glands, retention cysts resulting. Suppuration and ulceration into the urethra by a small, often valvular hole follows and the inflammation is kept up by urine trickling into the sac at each micturition; (2) blood cysts that have passed through similar changes; (3) the formation of pseudo-cysts by injury to the urethral floor during labor or menstruation."

Braxton Hicks had seen five cases. In one case, the cavity was filled with phosphatic concretions. He opened the cavity in each case and kept it open until the urethral opening closed, which usually occurred after a short time. Winckel<sup>5</sup> records two cases which he thinks were due to inflammation of the urethral lacunae. In one of these, the walls of the cyst consisted of muscular tissue and the inner surface was lined with pavement epithelium.

In 1906, Watts<sup>6</sup> reviewed the cases of urethral diverticula in the male and was able to collect sixteen cases from the literature. Of these cases, nine were under five years and only five were over

\* Read before the Forty-seventh Annual Meeting of the Medical Society of the State of California, Del Monte, April, 1918.

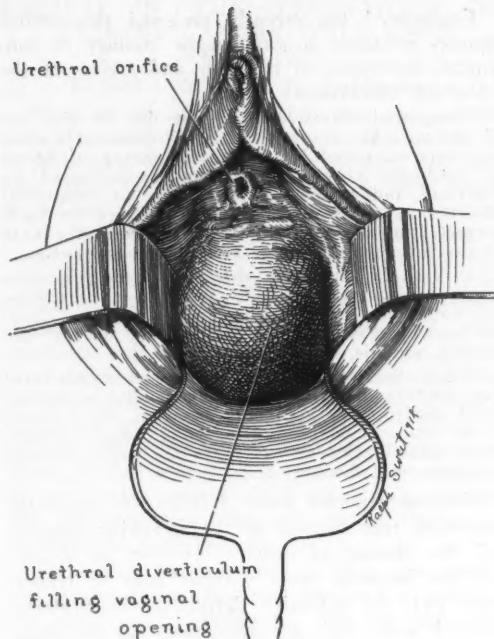


Plate I.  
Appearance of Diverticulum Before Operation.

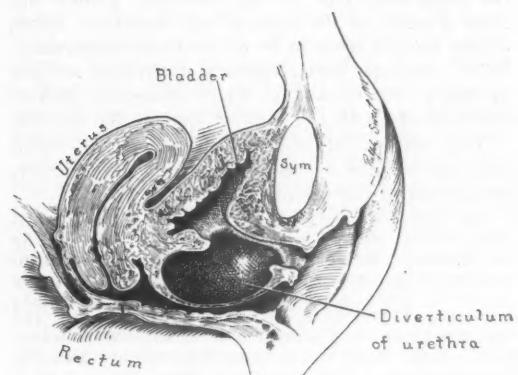


Plate II.  
Sagittal Section of Diverticulum, Showing Location and Extent of Involvement of Posterior Urethra.

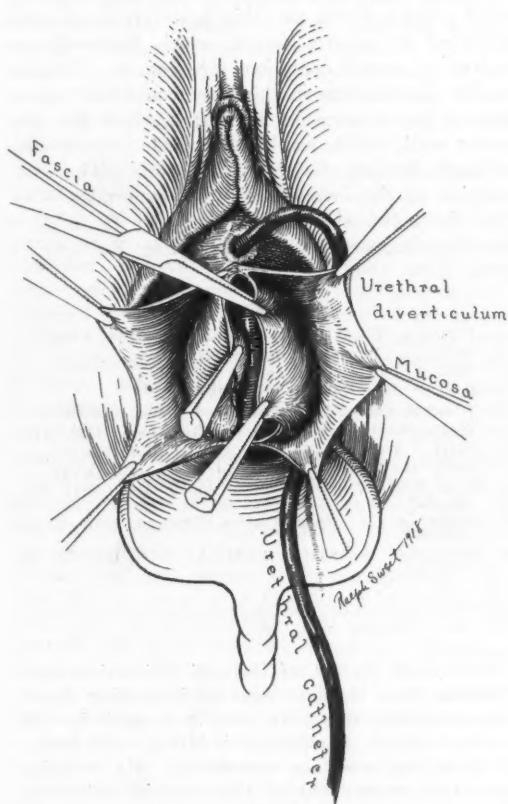


Plate III.  
Separation of Perineal Fascia from the Mucosa of the Anterior Vaginal Wall.

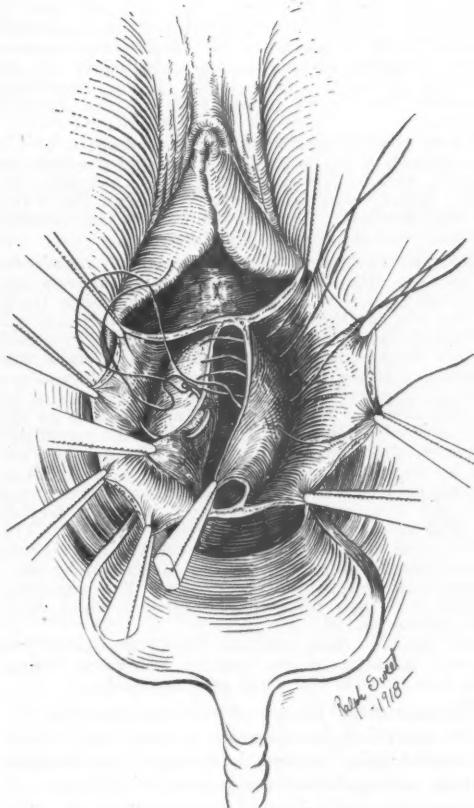


Plate IV.  
Method of Overlapping the Fascia.

fifteen years of age. He states that the etiology of the congenital type is not definitely known but from a study of the cases of the literature, valves of the urethra seem to be of secondary importance. Suter<sup>7</sup> concludes that congenital diverticula are due to faulty development in which epidermal pockets communicate with the inferior wall of the urethra.

The etiology of acquired diverticula is varied and may be due to urethral calculus or stricture, perforation of the urethra, etc.

The following case presented some unusual features: Mrs. E. K., aged 36, married, referred by Dr. Reginald Knight Smith, complaining of total incontinence of urine. Her past history was entirely negative; there was no history of genito-urinary infection. When first examined by Dr. Smith, she was eight months pregnant and on vaginal examination, a soft tumor mass was seen presenting at the vaginal orifice. This mass was about the size of a hen's egg. There was no tenderness but pressure caused the escape of muco-purulent material from the urethra which showed no organisms on careful microscopic examination. During the last two months of pregnancy, there was an escape of urine on coughing. The patient was delivered at term of a normal child by low forceps on account of the prolonged second stage. There was no apparent perineal tear. The patient had not borne children previously. The puerperium was entirely normal but on leaving her bed, there was a constant dribbling of urine.

On cystoscopic examination three weeks after delivery, the urethra readily admitted a number ten Kelly cystoscope, and the bladder wall was found to be entirely normal. The internal urethral orifice was about twice normal size and gradually blended with a sacculation of the posterior urethral wall extending to within one centimeter of the external urethral orifice. The lining membrane presented the same appearance as the urethral mucosa.

Upon vaginal examination, the contents of the tumor mass could be readily expressed through the urethra and by invagination of the cyst wall, the index finger would pass directly through the defect in the posterior urethral wall and the internal urethral orifice into the bladder.

**Operation.**—Under gas and oxygen anesthesia, a median line incision was made through the anterior vaginal mucosa and the underlying fascia to the wall of the diverticulum. This incision was carried backward sufficiently to expose the neck of the bladder. The diverticulum was then dissected free from the anterior vaginal wall and the internal urethral orifice reduced to normal size by the introduction of mattress sutures of silk as described by Kelly.<sup>8</sup> On account of the extensive defect of the posterior urethral wall, complete excision of the diverticulum seemed to be contraindicated. The walls of the diverticulum were very thin and were readily invaginated into the urethra by two rows of running mattress sutures. The fascia were then separated from the vaginal mucosa and overlapped after the method described by me<sup>9</sup> before this section one year ago. The excessive mucosa was then resected and the cut edges carefully approximated.

The patient made an uneventful recovery and left the hospital at the end of ten days. Since operation she has remained entirely well.

The important feature of this case was the extensive defect of the posterior urethral wall which had undoubtedly extended through the internal urethral orifice during the process of delivery.

Bevan<sup>10</sup> has recently reported a similar operation for diverticula of the esophagus with excellent results.

Englander<sup>11</sup> has recently reviewed the various theories advanced to explain the etiology of congenital diverticula in the male and arrives at the following conclusions:

"Congenital diverticula may be due to any one of the several causes, and the theories of epithelial rests advanced by Suter, the theory of defect or weakened corpus spongiosum as advanced by Kaufman and others, or the theory of congenital obstruction as advanced by Watts, are in the main correct, the various authors encountering a case or cases that they believe prove their contention.

"Diverticula may be the cause of persistent urethral discharge, whether specific or otherwise, and sometimes when infected may become a menace to life, may cause serious urinary obstruction, cystitis, pyelitis, and pyelonephritis.

"While diverticula of the urethra are much rarer than bladder diverticula and can usually be recognized easily, there are some cases in which there is no tumor evident and only a casual urethral examination or one for a persistent urethral discharge will discover it."

The case reported above I believe to be of the congenital type because of the following reasons: (1) the absence of urinary infection, or injury; (2) the insidious onset without pain or tenderness; (3) the extensive defect of the posterior urethral wall; (4) the appearance of the lining membrane; (5) and the absence of any urinary obstruction.

The recognized treatment in the past has been total excision of the sac; this, however, was usually followed by urinary fistula, which frequently required a second operation for closure. Excision of the diverticulum in this case would have necessitated the removal of at least one-half the posterior wall, which would have made closure with primary healing extremely doubtful. The contraction of the invaginated walls soon takes place and the imbrication of the overlying fascia gives excellent support without disrupting the urinary tract.

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Prof. T. N. Carver, of Harvard University, says: "Anyone who, in these days of impending doom, buys anything which he does not need for his health, strength, or efficiency is hiring some one to do something which is unnecessary. He is hiring some one to stay out of the essential industries. He is competing with the Government for materials and man power which it needs to win the war and preserve the liberties of mankind."

## RADIUM IN THE TREATMENT OF UTERINE CANCER WITH CASE REPORTS.\*

By REX DUNCAN, M. D., Los Angeles.

When we consider that more than 25% of the cases of cancer of the uterus are so advanced as to be inoperable when seen by the surgeon, and that more than 60% of those operated have recurrences, we are confronted with a serious question as to the treatment of these cases comprising a large majority of the total. The Percy Cautery, with a high immediate mortality and marked constitutional disturbance, together with the frequent and serious complications, hemorrhage, sepsis, vesicovaginal and rectovaginal fistula, etc., and with practically no cures and slight palliative effect, has little to recommend it in advanced cases. Personal experience and a careful review of the literature fails to offer anything from X-ray therapy even equal to the cautery as a palliative or curative agent in pelvic cancer. It is then, with considerable encouragement, that we review the results accomplished with Radium.

The writer has treated more than 50 cases of uterine carcinoma. Reported here, are 31 consecutive cases treated during the last two years and previous to the past six months.

**Dose and Technique:** A better understanding of the changes following the application of Radium, and an opportunity to observe the results of treatment in a large number of cases, have led to improved technique of application and more accurate dosage. Complications which occurred early in the use of Radium are always avoidable and occur now only as a result of improper technique and inexperience.

The majority of those who employ Radium in the treatment of pelvic carcinoma advocate the use of from 50 to 150 mgrms. The character and extent of involvement will determine the dosage necessary. I have obtained the most satisfactory results employing approximately 100 mgrms., although I find occasional cases in which I use larger amounts. The Radium must be so screened that the Alpha and soft Beta rays are absorbed by filtration. For this purpose, I use 0.5 of a mm. of platinum and 1 mm. of brass, covered with gauze and pure rubber gum tubing to absorb the secondary rays. When possible, the applicator should be placed within the uterine canal. It is necessary to secure an accurate approximation of the Radium to the involved area, and desirable to protect uninvolved tissue, especially the posterior vaginal wall and rectum when not involved (See Figs. No. 1, 2, 3, 4). The length of application and frequency of application will depend upon the general and local conditions, and the immediate reaction, as well as the amount of Radium employed. Constitutional disturbances, resulting from rapid absorption of the growth, frequently render it desirable to limit the applications of the Radium to from 12 to 18 hours at each application. This constitutional disturbance subsides, however, within

from 12 to 24 hours after removal of the Radium, when the treatment may be resumed at intervals of one or two days, until a total of from 30 to 60 hours, or 3000 to 8000 milligram-hours, has been given. Additional treatment, after 6 or 8 weeks, is frequently desirable to hasten the destruction of any remaining involvement, or as a prophylactic measure when no evidence of involvement remains.

A thorough understanding of the patient's general physical condition and the character and extent of local involvement is essential as a basis for determining dosage. Favorable results, without any immediate or remote dangers, can only be obtained when proper dosage and perfect technique are employed. Strict asepsis is essential.

The theory of the treatment of cancer by Radium is based on the well-known fact that cancer tissue is more susceptible to Radium radiation than are normal tissues. This has been demonstrated repeatedly in our laboratory and the literature is abundant with reports of such studies.

Janeway and Ewing (11) by an elaborate and extensive microscopical study of the effect of Radium upon normal epithelial cells and carcinoma cells have shown that approximately one-fourth the dose required to destroy normal epithelial cells will cause a permanent destruction of the carcinoma cells.

The histological changes which occur in the cancer tissue under the influence of the rays from Radium have been thoroughly studied by numerous observers. We have made microscopical studies of sections removed at different intervals after treatment in a large number of cases and observed the histological changes to be as follows:

Within 5 to 7 days there results a hyperemia of the tissue, exudation of lymphocytes and polymorphonuclear leukocytes and swelling of the cells. Atypical mitosis is observed. In the second week, the nuclei are swollen, homogeneous and hyperchromatic, and there is an enlargement and vacuolation of the cancer cells, and fusion giant cells form. In the third week, the number of cells rapidly decreases and many undergo a granular degeneration and absorption. During the fourth week, only cell and nuclear debris and occasional giant cells are visible, or no traces, whatsoever, remain. There is a simultaneous activity and proliferation of the stroma. The blood vessels are obliterated by a swelling and proliferation of the intima. On the surface, there occurs a formation of granulation tissue which is later covered by epithelium, completing the repair.

Radium induces the absorption of living tumor cells, which Lazarus-Barlow believes may establish a true immunity against their growth. The most pronounced traces of artificial immunity produced against tumors of animals are by the absorption of living tumor cells in the body.

In addition to the influence of the rays upon the neoplastic elements, the endothelial lining of the blood vessels is caused to swell, thereby obliterating the vessel, the connective tissue contracts and, as a result, lymphatics and smaller blood vessels are permanently blocked, and the dense scar produces a condition of starvation of the growth.

\* Read before the Forty-seventh Annual Meeting of the Medical Society of the State of California, Del Monte April, 1918.

Gross tissue changes are evident after 5 to 7 days. There is less tendency to hemorrhage from trauma. The growth becomes less fungous, more firm, and smaller, and induration into adjacent tissues gradually decreases. In operable cases, the cervix gradually resumes its normal appearance, and the uterus becomes smaller and less fixed. The tissue changes occur by gradual absorption of the neoplastic elements and rarely is there any sloughing of tissue. I wish to repeat here that the tissue changes in no manner resemble those produced by the cautery, caustics or similar agents.

In treating smaller areas of involvement, there will result some inflammation of the surrounding tissue after 7 to 10 days, which gradually subsides in from 1 to 2 weeks. The involved area is gradually absorbed and may be covered with a grayish membrane, remaining for several weeks. By proper technique of application, and after-treatment, atresia of the vagina can be prevented and the uterine canal caused to remain patent. This greatly facilitates later treatment if necessary. Gross changes vary greatly, depending upon the character of the involvement.

Hemorrhage is almost immediately arrested and there is a prompt and rapid decrease in the odorous discharge. A marked improvement in the blood picture and general condition of the patient is observed within 2 or 3 weeks.

#### RESULTS FROM TREATMENT.

Before discussing my personal cases, I wish to refer briefly to a review of recent literature.

The uniformly good results, reported by various authors, resulting from the proper application of sufficient quantities of Radium in appropriate cases, are very encouraging. The number of cases treated, clinical cures effected, with the time elapsed since treatment, is shown in Table No. 1.

By "Clinically Cured," is meant an absence of all clinical and anatomical evidence of involvement. Many cases, not so reported, received marked palliative effect.

Risley and Leland (9) report excellent results from the application of Radium in borderline cases to render them operable, and as prophylactic following hysterectomy in operable cases. A high percentage of cures, and excellent palliative results, are also reported in a large number of recurrent and inoperable cases treated.

K. Warnekros (10) reports from their Berlin clinic during the years 1911 to 1914, 174 cases of uterine cancer, which were operated and discharged as primarily cured. Of these, 119 received no prophylactic Radium, 66 died of recurrence, 2 were not traced, and 51 were free from involvement, making 55% recurrences. Of the 55 cases that were operated and received prophylactic Radium, 11 died of recurrence, and 44 were clinically cured, leaving only 18.5% recurrence.

Kelly (2) reports 10 cases operated that received prophylactic Radium with all, or 100%, clinically well; 3, six months; 4, one year; 1, two years; and 2, three years, after treatment.

The number of early or operable cases reported in which Radium alone has been employed are too

few from which to draw conclusions, although the results are very striking. Kelly (2) reports 4 cases, all having remained well; 2, after more than two years; and 2, after more than three years. Ranshoff (3) reports 3 cases; 2, clinically cured after more than one year; and 1, after more than two years.

In reporting the following cases, I regret that time will not permit me to present abbreviated individual case reports. Included, are 31 consecutive cases. More than 20 other cases treated during the past 6 months, although showing excellent primary results, are not included, being too early from which to draw definite conclusions.

**Operable Carcinoma:** I have treated but one case in which the involvement was limited to the cervix, and could be considered operable from a surgical standpoint. General conditions, rendering the patient a poor surgical risk, contraindicated surgery. This patient was a multipara, 32 years of age, in which microscopical section showed cuboidal cell carcinoma of the cervix. Prompt disappearance of the involvement resulted from the application of Radium, and more than 20 months have elapsed without any evidence of recurrence.

**Inoperable Carcinoma Uteri:** Of 10 cases treated, 5 or 50% are apparently cured and free from any clinical or anatomical evidence of involvement. Two are dead, 8 and 12 months after treatment. Three are classified as alive, with involvement; of these, 1 has extensive intrapelvic involvement; 1, although apparently free for several months, has developed a recurrence in the rectum, with intrapelvic involvement; and 1, apparently free, developed a small local recurrence, which, with further Radium treatment, has disappeared, more than 3 months since, and the patient is now enjoying splendid health. These cases, of which 60%, including the last case above mentioned, are apparently cured, all had originally extensive involvement of the uterus and vaginal walls, with probable extension into adjacent tissues. Prompt and marked improvement in the local condition and general health was evident in nearly all cases treated.

**Recurrent Carcinoma:** Of the 20 recurrent cases treated, 18 had had simple or radical hysterectomy, and 2, Percy Cautery. The average time elapsed between operation and recurrence was approximately 6 months. Various palliative methods, including cautery, acetone, x-ray, etc., had been previously employed for the recurrence in 8 cases. Five cases were terminal cases, and in 3, the inguinal glands were involved. Nine cases had distinct pressure symptoms from intrapelvic involvement.

The results from treatment were as follows: (See Table No. 2.) Twenty cases were treated. Six, or 30%, are clinically well; 2, after more than 6 months; 1, more than 7 months; 1, more than 12 months; and 1, more than 20 months. Nine cases are dead, having lived 4 to 15 months, or an average of 7 months, after treatment. Five cases are improved or classified as alive, with involvement, from 7 to 16 months after treatment. Of these, one case, free for several months, had a

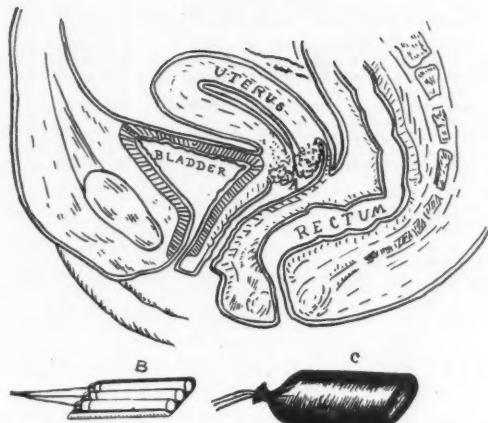


Figure I.

- A. Carcinoma of the cervix involving the anterior vaginal wall.
- B. Screened Radium tubes on 2 mm. of lead to protect posterior vaginal wall and rectum.
- C. Same as "B," covered with gauze and finger-cot, ready for application. (Actual size.)

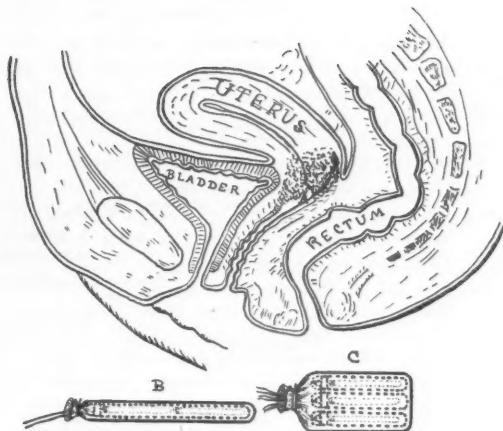


Figure III.

- A. Carcinoma of the cervix involving the vaginal walls.
- B. Diagram showing Radium tubes, screened with platinum and brass, covered with pure rubber-gum tubing, for insertion into uterine canal. (Almost actual size.)
- C. Radium tubes, screened with platinum and brass, covered with gauze and finger-cot, for application within the vagina. (Almost actual size.)

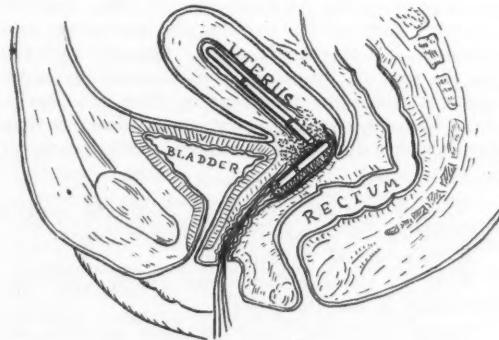


Figure II.

Diagram showing Radium tube in uterine canal, and vaginal applicator against cervix and anterior vaginal wall, held in place by vaginal pack, rectum protected with 2 mm. of lead and packing.

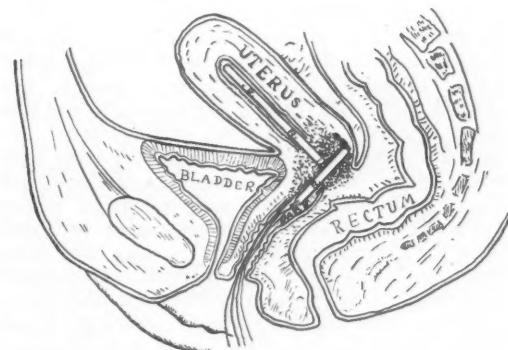


Figure IV.

Diagram showing Carcinoma involving the cervix and vaginal walls, with Radium placed within uterine canal and vagina, held in position by vaginal pack.

TABLE NO. 1.  
INOPERABLE AND RECURRENT CARCINOMA OF THE UTERUS.

Reported by:	Total No. Treated	Clinically Cured	Remaining well after 6 mo.	1 yr.	2 yrs.	3 yrs.	4 yrs.	more than 6 yrs.
2 Kelly, H. ....	203	57	15	24	5	4	3	1
3 Ranshoff, J. S. ....	22	8	2	4	2			
4 H. Cheron & Rubens-Duval ....	158	46	24	22	(17 could not be traced).			
8 Schmidt, H. ....	62	22	Time elapsed after treatment, 2 to 24 months.					
5 Doderlein ....	153	31	Reported only those well after more than 1 year.					
6 Werner, P. ....	102	14	Reported only those well after more than 3 years.					
7 Maiolo, C. G. ....	42	16	Reported only those well after more than 1 year.					
12 Recasens, S. ....	126	72	Interval since treatment, 2 yrs. in 27 of 47 cases, and over 1 yr. in 45 out of 79 cases.					

Table Showing Types of Cases Treated, Number of Each, and Results Accomplished.

TABLE NO. 2.  
CARCINOMA UTERI.

	Number Treated	Dead	Improved	Clinically Well	Months elapsed since Treatment						
					No.	%	6	7	8	9	12
Operable	1	0	0	1	100%						1
Inoperable	10	2	3	5	50%		1	2	1	1	1
Recurrent	20	9	5	6	30%		2	1	1	1	1
Total	31	11	8	12	38.7%		3	3	1	1	2

Table Showing Results, with Time Elapsed After Beginning Treatment, in All Cases.

TABLE NO. 3.  
CARCINOMA UTERI.

No.	%	Months elapsed after beginning treatment.											
		4	6	7	8	9	10	11	12	14	15	16	20
Dead	11	1	2	2	2	1	2	1	1	1	1	1	8 mos.
Improved	8	25.7%		1	4		1	1	1				
Clinically Cured	12	38.7%		3	3	1	1		2	1	1	2	

small recurrence, which has apparently yielded to further treatment.

The favorable and palliative action of Radium in these cases was truly remarkable. Hemorrhage and odorous discharge were arrested, pain relieved, and the general condition of the patients remarkably improved.

The above cases represent a considerable variation in the character and extent of involvement. In some cases, there was present a large cauliflower mass involving the cervix and adjacent vaginal walls; in others, very little new growth, but marked infiltration of the vaginal walls and the broad ligaments, with fixation of the uterus. Results are more striking in the vegetative type, with which there is usually greater hemorrhage and discharge and more marked toxic symptoms. I have found that a definite prognosis cannot be based upon the apparent involvement, as some cases, with extensive involvement and marked constitutional disturbance, yield more favorably than other cases, apparently more promising. Induration of the broad ligaments and fixation of the uterus does not necessarily preclude a satisfactory result, as several such cases are now apparently well, some time after treatment. Pressure symptoms and involvement of the inguinal glands renders the prognosis less favorable. Great care in regulating the dosage in advanced cases is necessary and treatment at various intervals over a period of several months, often yields results in the most unpromising cases.

Notwithstanding the apparently greater local involvement present in the majority of inoperable cases treated, the results, both immediate and re-

mote (See Table No. 2), are more favorable than in recurrent cases after panhysterectomy, in which there was apparently much less involvement.

One cannot see a considerable number of cases of carcinoma of the uterus without being impressed with the absurdity of surgical treatment of those cases in which the character and extent of involvement precludes a reasonable possibility of removing all involved tissue. Unquestionably many cases are operated that would live longer, and more comfortably, if left entirely alone. Greater discretion on the part of the surgeon in eliminating inoperable cases, and the treatment of these cases earlier with Radium, would unquestionably yield far more favorable results in the treatment of uterine cancer.

#### CONCLUSIONS.

Greater care and judgment should be used in determining the operability of uterine cancer.

Radium should be employed:

First, as a prophylactic immediately after hysterectomy in operable cases;

Second, to render borderline cases operable, and preliminary to surgery in operable cases;

Third, as a curative and palliative agent in inoperable cases;

Fourth, as a curative and palliative agent in recurrent cases; and,

Fifth, in any case where the general condition of the patient contraindicates major surgery.

Radium not only relieves the pain, arrests hemorrhage and odorous discharge, but indirectly also improves the general health of the patient, and prolongs life. These curative and palliative results may be obtained with Radium, without any im-

mediate, or remote, danger, provided proper dosage and technique, and strict asepsis, are employed.

The results of Radium Therapy in inoperable and recurrent carcinoma of the uterus surpass those of any other known therapeutic agent.

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822 Investment Building.

**THE X-RAY TREATMENT OF UTERINE FIBROIDS.\***

By HENRY J. KREUTZMANN, M. D., San Francisco.

The Secretary of the Gynecologic Section, Dr. Alfred Baker Spalding, suggested to me to present a paper on X-ray treatment of fibroids of the uterus at this meeting; and in response to this suggestion, I have the honor to make the following report.

Before I begin my paper proper, I have to offer an apology for making to you, surgeons as most of you are, a plea for non-surgical treatment of uterine fibroids. I am quite aware that in the last decades the operative procedures for the eradication of this ailment have been rendered extremely safe and simple; I have myself operated upon several hundreds of such cases; yet I felt quite interested in this most modern treatment for various reasons, and I shall render to you a short account of my valuation of this mode of treatment based on my own observations.

The number of fibroids of the uterus (fibroma uteri) that I have seen during my professional life is quite large, and I have always looked upon these tumors as non-malignant neoplasms, in distinct contra-position to sarcoma, carcinoma and cystoma, malignant neoplasms. Fibroids of the uterus do not endanger the life of the bearer in the way that sarcoma, carcinoma and cystoma do; there is no spreading to neighboring organs; no metastases to remote organs; no general affection of the system, as expressed by the cachexia of patients suffering from malignant disease.

It is the symptoms induced by the presence of fibroids of the uterus, notably pressure and hemorrhages, that will at times cause suffering and put the life of the bearer in danger.

When I was attached, years ago, to a large hospital where every fatal case was autopsied, fibroids of the uterus, sometimes of considerable size, were not infrequently found in women who while alive had absolutely no signs or symptoms that could be referred to them. Every once in a while, when we

examine a pregnant woman or after delivery, we find a fibroid present; yet no symptoms had been noticed prior to our examination. The same experience we have on opening the abdomen for adnexal or other disturbances; we find a fibroid of the uterus, yet there were no symptoms traceable to its presence.

In quite a large number of cases of sterility (and sterility in perfect health brought the patient to me), I discovered fibroids of the uterus, which had been there in all probability for years. In all my life I have not seen a single woman succumb to fibroids of the uterus prior to operation.

Fibroids, sometimes of considerable size, will either disappear entirely, or become greatly reduced after delivery.

I have seen a number of women with uterine fibroids enter the menopause; I had occasion to examine these women at different times, and I found in the atrophic, senile uterus, either no trace of a fibroid at all, or small marble-like protuberances, even in women where fibroids of considerable size had formerly been present.

It is important to lay stress on these statements of non-malignancy of the uterine fibroid, because the doctrine has been promulgated and altogether too readily accepted, that a fibroid uterus, whenever found, should be operated upon.

The operation usually performed is hysterectomy; and if we take into consideration the operative mortality ranging from 3 to 5 per cent., the days of more or less suffering right after operation, and the period of invalidism following, we must admit that there exists great disproportion between the severity of the remedy and the rather harmless pathologic condition.

This consideration has induced many physicians to look for other than surgical treatment of uterine fibroids. Many drugs and many methods of treatment have been tried; but with the wonderful progress of abdominal surgery, they have all been discarded.

In the last few years, however, Roentgen rays, and the rays of radio-active substances have been employed with ever-increasing frequency, and in the practice of many gynecologists actinotherapy, raying, has almost entirely supplanted operations for uterine fibroids.

It has been claimed by the opponents of ray therapy that the result of X-rays is nothing more or less than castration—they call it Roentgen castration. This theory is not correct. There is action on the fibroids themselves besides action on the ovaries. I have seen time and again fibroids diminish in size under Roentgenization, while the patient was still menstruating. Roentgenization is therefore not merely symptomatic therapy, but etiologic as well.

So far I have treated twenty-four cases of uterine fibroids with Roentgen rays. Patients under treatment at present are omitted. The cases are all private patients, and a careful selection of examined cases was made. I am indebted to several colleagues for kindly sending patients, where they thought X-ray treatment would be appropriate.

I shall analyze these twenty-four cases according

\* Read before the Forty-seventh Annual Meeting of the Medical Society of the State of California, Del Monte, April, 1918.

to age, kind of tumor, size of tumor, symptoms, complications and results.

Three of the women were under forty; but none of these were under thirty years of age; of the remaining twenty-one, two were over fifty years of age; of the whole number four were unmarried; six of the married women were sterile.

Tumors were all interstitial, sub-serous, multiple (with one exception), varying in size from a walnut to a cocoanut.

Three women complained of pressure symptoms; all the others had disorders of menstruation, ranging from extended regular menstruation to severe hemorrhages, reducing the hemoglobin in four patients to below 40 per cent. (Thalquist).

Complications were noticed: one emphysema pulmonum with bad heart; one pyelitis; one subacute nephritis; three excessive adiposities—one amongst these lipomatosis dolorosa; one venectasia.

In twenty-one cases menopause was established, with complete disappearance of palpable fibroids in two, and more or less diminution of the tumor in all the other cases; relief of pressure symptoms in all three cases.

Two women remained away when the hemorrhages ceased. In one of these cases menses had become regular; in the other irregular light bloody discharges still occur.

In one case I had to perform hysterectomy; here the diagnosis had been erroneous; it was not an interstitial, but a sub-mucous fibroid.

From my observation, I have come to divide the cases of women with fibroids of the uterus in three classes as far as Roentgenization is concerned.

First. Roentgenization is imperatively demanded.

Second. Roentgenization is contra-indicated.

Third. Cases of choice between operation, Roentgenization, observation.

Roentgen rays should be applied to all cases that are grave surgical risks, or where any complication exists that produces any risk at all.

Amongst my cases, the patient with emphysema pulmonum and wretched heart would certainly have been a grave risk; likewise the three ex-sanguinated women with fatty degeneration of their organs.

Cases of nephritis and pyelitis are not exactly operative risks, but they are decidedly better off without operation.

Patients with severe anemia, bad hearts, lung affections, poor kidneys, phlebectasies, should certainly have the benefit of Roentgen ray treatment.

On the other hand, very large tumors are no subjects for raying; rapidly growing tumors must be operated, because they raise a suspicion of malignancy; wherever the slightest suspicion of malignancy exists operation is indicated, followed by ray treatment.

In this class also belong tumors that show any disposition to grow after the menopause.

Pregnant women should not be treated with X-rays, nor women who wish to retain the ability to bear a child.

Sub-mucous, pedunculated sub-serous tumors are not fit subjects for Roentgenization; likewise women with adnexal tumors coexisting.

There remains a very large number of women with uterine fibroids who offer excellent operative chances, but where symptoms are slight, or where symptoms are lacking altogether. I have tried in former years in a number of such cases, by "watchful waiting" to steer these patients safely into menopause; in some cases I succeeded; others, however, drifted in somebody else's hands and were promptly operated upon, a thing that I could easily have done myself.

In this age of extremely active, polypractical medical endeavors, one is compelled to do something, and it seems to me that in certain cases of uterine fibroids Roentgen ray treatment is an excellent substitute either for operation or for therapeutic nihilism.

The advantages of Roentgen treatment over operation are manifest; there is absolutely no mortality from rays, which cannot possibly be said of hysterectomy; there is no ventral hernia, no adhesions, no thrombophlebitis after Roentgen treatment—things that I have seen in my own and in others' practice after operation; no hospital, no staying in bed.

The worst that may happen is that we have erred in our diagnosis, that we have to deal not with a fibroid, but with a fibro-sarcoma; or that the fibroid may be of the intractable kind, sub-mucous fibroid. Then an operation would have to be done instead. The possibility of this occurrence requires a most careful diagnosis, and constant, rigid observation.

Aside from the possibility of failure due to incorrect diagnosis, further drawbacks of Roentgenization have to be mentioned: the symptoms are relieved, the tumors shrink, but do not always disappear; some patients prefer complete removal of the growth even if some risk is incurred. Roentgenization, like all conservative treatment, requires time; some patients prefer quick action. When the patient lives far away from the physician, Roentgenization is impractical.

I have endeavored to give an unbiased opinion in this paper on the status of X-ray treatment of uterine fibroids. In summing up I wish to say: Roentgenization of uterine fibroids forms an excellent addition to our armamentarium; it is not a panacea, must not be used indiscriminately; but if judiciously applied, it will in proper cases save life and spare much suffering.

#### A STUDY OF THE LUNG REFLEXES IN PULMONARY TUBERCULOSIS.\*

By F. M. POTTENGER, A. M., M. D., LL. D.,  
Monrovia, Cal.

The reflex is the means by which tissues and organs react to their surroundings. A reflex is due to an impulse which is carried over a sensory neuron to its cell in the central nervous system, where it is transmitted either directly or through other nerve cells and their fibers to another cell which through its fibers produces an action. These reflexes may be simple and take place in the same segment of the cord which receives the sensory

\* Read before the Forty-seventh Annual Meeting of the Medical Society of the State of California, Del Monte, April, 1918.

impulse, the connection being direct from the sensory to the motor neuron; or they may be complex, the acting efferent neuron being separated widely from the afferent sensory cell body, and the two being connected by several different neurons.

The voluntary nervous system has been studied with care in the past; but the involuntary system, which properly is called the "vegetative system," while of great importance to clinical medicine, has not been developed in clinical literature. Every smooth muscle and all secretory glands throughout the body are supplied by the vegetative nervous system. The vegetative nervous system may be divided into the sympathetics and the parasympathetics. Some structures are supplied by both divisions of the vegetative system, one activating and the other inhibiting action. This is shown best throughout the entire enteral system. The enteral system is made up of the gastrointestinal tract and all of those structures embryologically related to it. These are: The respiratory system, the liver, the pancreas, and the bladder, aside from the trigone. Being derived from the intestinal tract, they have the same innervation as the intestinal tract itself. The entire enteral system is activated by the parasympathetic nerves. The parasympathetic nerves consist of all vegetative fibers which run in the third, seventh, ninth, tenth and eleventh cranial, and the pelvic nerve. Whenever a muscular contraction or secretory activity is produced in this entire system, it results from the stimulation of the parasympathetic fibers which supply the structure affected. The sympathetic nervous system also sends fibers to practically all of these structures, which antagonize the parasympathetics; and when stimulated, it produces an inhibition of action. Tonus in these various organs is maintained by the opposing action of the sympathetics and the parasympathetics; and the nearer the stimulation in the two systems equals each other, the more stable is the function of the organ or structure.

The sympathetics and the parasympathetics contain both sensory and motor fibers. While it is questioned by some writers whether or not the sensory fibers from internal viscera are capable of carrying sensations, such as pain, heat, and cold, which are produced by stimuli with which these organs have not come in immediate contact, there is no doubt that they carry afferent impulses to the central nervous system, the same as the spinal sensory nerves, which result in reflex action.

Whenever an internal viscus supplied by both sympathetic and parasympathetic fibers is inflamed, we have two sets of reflexes, one resulting from the sensory afferent impulses carried through the sympathetics, the other resulting from the sensory afferent impulses carried through the parasympathetics. The sensory impulses carried through the sympathetics are transmitted to the spinal nerves and result in reflex action in the tissues which are supplied by these nerves. This reflex shows itself during acute disease in sensory disturbances in the soft tissues, the skin and other soft skeletal tissues and in motor changes in the muscles; and, if the impulse continues for a long time,

it results in tropic changes in all skeletal tissues which come under the influence of the nerves affected by the reflex.

The sensory impulses carried through the parasympathetics result in stimulation of other branches of the parasympathetics and the cranial nerves which are in reflex connection with them, and produce reflex action mainly in other internal viscera, but also in the sternocleidomastoideus and trapezius muscles and in tissues supplied by the sensory fibers of the fifth cranial nerve. These reflexes are of four kinds: motor, sensory, secretory and trophic.

This gives us a basis for explaining the so-called "functional disturbances" which are found in other important internal viscera belonging to the enteral system when any organ of this system is inflamed. We can thus see that there are two groups of symptoms, one of which may be called the "sympathetic group," the other the "parasympathetic group." Inasmuch as MacKenzie has named two of the important reflexes of the first group the "viscero-motor" and the "viscero-sensory," it seems best to retain this characterization, and I would suggest that the trophic change be called the "viscero-trophic" reflex. For those changes which result reflexly through the parasympathetics, I would suggest the name "parasympathetic-motor reflex," "parasympathetic-sensory reflex," "parasympathetic-secretory reflex," and "parasympathetic-trophic reflex."

#### SYMPATHETIC REFLEXES.

With this physiological basis understood, we shall now proceed to analyze those symptoms which result from an inflammation in the lung. The lung, as previously mentioned, belongs to the enteral system and is embryologically derived from the gastrointestinal tract. The motor cells which give origin to the sympathetic fibers supplying the lung are found in the stellate ganglion. The connector fibers which carry the impulses from the spinal cord arise from the upper six thoracic segments, joining the motor cells in the stellate ganglion. The sensory cells of the sympathetic are found in the posterior root ganglion of the upper six thoracic segments. All impulses which result from inflammation of pulmonary tissue are probably carried back to the segments from which the connector fibers arise,—the posterior root ganglia of the upper six thoracic nerves. The reflexes which result from these impulses, however, do not take place in the thoracic spinal nerves, but are transferred upward in the cord to the cervical spinal nerves. As far as we can determine clinically, the third and fourth cervical nerves are the center of the reflex action from the lung, although there is connection with possibly all of the cervical nerves.

Impulses carried through the sensory nerves of the sympathetics from the acutely inflamed lung produce reflex motor and sensory changes in the tissues supplied by the cervical spinal nerves; and if the disease becomes chronic, trophic changes also appear. The viscero-motor reflex which results from the lung shows itself in a contraction of the fibers of those muscles which receive their origin

from this portion of the cord, and particularly from the third and fourth segments. This is recognized clinically as an increased tone or spasm. The muscles which show this best are the sternocleidomastoideus, scaleni, trapezius, levator anguli scapulae, rhomboidei, and diaphragm, and to a lesser extent the pectoralis.

It is characteristic of the viscero-motor reflex, as well as of the viscero-sensory and viscero-trophic reflexes, that it is confined largely to the side of involvement. It will be readily understood that an increased tonus or spasm in the above accessory muscles of respiration would have a tendency to fix the side involved, resulting in a lessened respiratory movement. The greatest muscle factor in producing the lessened respiratory movement, unless the intercostales are also in spasm as a result of an underlying pleuritis, is the spasm of the diaphragm. This can be understood by recalling that this is the most important muscle of respiration, and that it is the largest factor in enlarging the thoracic cavity.

The increased tonus on the part of these various muscles may sometimes be seen on inspection, and is usually determined more or less readily by palpation. The readiness with which it is determined will depend upon the character of the muscles under conditions of health, and whether trophic changes in the tissue are present as a result of previous inflammation. There is nearly always an asymmetry in the muscles of the shoulder girdle on the two sides of the body. This includes not only those above the clavicle and scapula, but the pectoralis and often the rhomboidei. Observation of a great many individuals shows that most people, and particularly those in the professions and those who do ordinary work, including practically all women, have on the side of the hand which is used most muscles which are considerably smaller than those on the other side. At the same time they seem to stretch so that they become longer. The lengthening of the muscles which support the shoulder girdle causes the shoulder to drop and become lower than on the other side; and the dropping of the shoulder, together with the diminished size of the pectorales causes the breast on this side to assume a lower position and the whole tissue mass to appear smaller than on the other side. The dropping of the shoulder carries with it the insertion of the pectoralis which pulls this muscle away from the clavicle and causes a subclavicular cupping. On the contrary, in individuals who use the arms a great deal, such as those who use a pick and shovel, or hammer, the muscles enlarge as a rule and are larger on the side of the hand that is used most.

The viscero-sensory reflex, resulting from the inflammation in the lung, manifests itself through the sensory filaments of the same spinal nerves that show the viscero-motor reflex. It may be recognized as a distinct pain, usually dull and aching in character, or as an alteration in sensations to heat and cold, as pointed out by Head; also in hyperalgesia of the skin and deep, soft tissues. The point of greatest intensity of the sensory changes is also in the area supplied by the third and fourth

cervical nerves. These nerves, anteriorly, supply the neck and upper portion of the chest as low as the second rib; and, posteriorly, the neck and upper portion of the chest as low as the spine of the scapula; and also those areas running out over the deltoid muscle. This viscero-sensory reflex is extremely common in tuberculosis, both in the acute and chronic forms.

The viscero-trophic reflex from the lung likewise manifests itself in the same areas as the viscero-motor and viscero-sensory reflexes. The nutrition of tissue depends upon both motor and sensory nerves. The nutrition of the skin and subcutaneous tissue depends upon the sensory nerves, while both the sensory and motor enter into the control of the muscles. We find the viscero-trophic pulmonary reflex showing itself in the third and fourth cervical segments. It is most marked in the skin and subcutaneous tissue of the neck and those portions of the chest above the second rib anteriorly and the spine of the scapula posteriorly. It also affects all muscles which are influenced by the viscero-motor reflex as detailed above. While innervation follows the body segmentation for the most part, yet it is not exact, and extension beyond the usual limits of a given nerve are not infrequently found. Roughly speaking, however, it may be said that a viscero-trophic reflex affecting the skin and subcutaneous tissue above the second rib anteriorly and spine of the scapula posteriorly, and extending up into the neck, is of pulmonary origin; while one extending from these levels to the lower costal margin is of pleural origin.

It can be seen that the viscero-motor, viscero-sensory, and viscero-trophic impulses may be utilized to great advantage in the diagnosis of diseases of the lung, because the changes are evident on inspection and palpation. They have a further very important bearing upon the data obtained by the usual methods of examination,—percussion and auscultation,—because the results of percussion and auscultation are greatly modified by the amount of, and the condition of, these soft structures through which the blow and sound must pass. This can readily be appreciated by clinical examination. In some instances, on the side of the involvement, as much as half of the soft tissue over the apex of the lung will be wasted through the degeneration which has resulted from the viscero-trophic reflex, and it can be seen readily that the sound through the degenerated structures will be very different from that of the normal or less degenerated structures on the other side. At times the viscero-motor reflex causes such a tension in the musculature that it raises the pitch of the percussion note and greatly increases the resistance to the finger. These conditions also greatly modify the respiratory murmur as elicited on auscultation.

#### PARASYMPATHETIC REFLEXES.

As parasympathetic reflexes we describe all reflexes in other organs which result from afferent sensory impulses which travel centralward from the lung and express themselves peripherally in other organs supplied by the vegetative nervous system. We must also include reflexes in pulmonary tissue which result from afferent sensory

impulses coming from other viscera and expressing themselves through the vagus fibers in the lung.

*Parasympathetic Reflexes Expressed in Other Viscera, which Result from Stimulation in the Lung.* Parasympathetic reflexes, the existence of which depends upon stimuli arising from the lung, are apparently expressed most frequently in other structures which are supplied by the vagus nerve, such as the larynx, stomach, upper portion of the intestines, and the heart. There are many different reflexes, however, of pulmonary origin which are expressed through other fibers of the vegetative system. We find, upon careful observation, that parasympathetic reflexes are expressed through the vegetative fibers in the third, seventh, ninth, tenth and eleventh cranial nerves, and the pelvic nerve. In some of these the connection is very plain and the clinical relationship is unmistakable. In others it is vague and probably more difficult to establish with the data which we now have at hand.

*Vagus.* The inflammatory conditions in the lung probably produce motor and secretory disturbances in all structures supplied with motor and secretory power by the vagus nerve, in some of which the effect is very evident.

In the larynx we have motor, sensory, and secretory reflexes shown through the superior laryngeal nerve. The parasympathetic sensory reflex shows in altered sensation in patients suffering from pulmonary disease, manifesting itself in irritation and the impulse which is followed by coughing. There is also a parasympathetic motor reflex shown through this nerve, which manifests itself in a condition in which the cords are relaxed and baggy in the center instead of approaching each other as they should. This comes from an interference with the innervation of the cricothyroid muscle. The inferior laryngeal nerve supplies the remaining muscles of the larynx and many disturbances in muscular action which manifest themselves in an abnormal approach of the cords are found as a result of the pulmonary reflex. These two reflexes produce various degrees of hoarseness and at times aphonia, which are so common in tuberculosis, beginning as soon as the pulmonary tissue is irritated and lasting through until the disease ends. The glands of the pharynx and larynx also receive innervation from the laryngeal nerves and an increased secretion is frequently met as a reflex phenomenon.

On the part of the gastrointestinal tract, motor and secretory disturbances are extremely common as a result of the reflex which arises from the inflamed lung.

Hypersecretion on the part of the stomach and intestines is frequently present as a result of the reflex action from the pulmonary vagus. This on the part of the stomach shows as a hyperchlorhydria,—a common symptom in all stages of tuberculosis. This manifests itself at times even during marked toxemia with high fever. Under these conditions the central stimulation of the sympathetic nerves which results from the toxins is not sufficient to inhibit the action of the vagus which has its tonus increased by the reflex vagus stimulation. So it is not uncommon to find patients

during the stage of cavity formation show a clean tongue and an increase in the acidity of the stomach.

The motor reflex manifests itself in increased tonus of the muscles, resulting in hypermotility.

Reflex nausea and vomiting are frequent in certain stages of pulmonary tuberculosis. They manifest themselves most commonly when the pulmonary inflammation is the most marked. Increased muscular tonus is shown in the stomach, but particularly does it produce symptoms as it affects the intestinal tract. The increased tonus as it affects the circular muscles of the bowel results in constriction, interfering with the onward passage of the ingesta and resulting in two conditions,—spastic constipation and stasis. If the increased muscle tonus affects the longitudinal fibers rather than the circular, then the ingesta is hastened on and a looseness of the bowels or diarrhea results.

In the intestinal tract we infer that there is also a reflexly increased secretory activity, from the fact that the stools very often show an increased water content.

Spastic constipation is frequently found in pulmonary tuberculosis. Reflex stimulation of the circular muscle causes contracture which interferes with the onward movement of the ingesta and interferes with the normal daily stool. The spasticity present may vary greatly in degree. It may be only a slight interference, or it may be so severe as to cause great difficulty in the emptying of the bowel.

Intestinal stasis resulting from reflex stimulation of the circular coat of the bowel is commonly found when the pulmonary tissue is involved. It is closely related to spastic constipation in its etiology. Owing to the fact that the ingesta is delayed in its passage through the bowel, an opportunity for increased bacterial action is offered, decomposition takes place with the liberation of toxins and gas. This results in either a more or less marked toxemia, headache, malaise, even severe general aching at times follows. The condition may relieve itself if the stimulation of the sympathetics which results from the toxemia is sufficient to inhibit the action of the vagus and relax the muscular tonus. A cathartic, however, is usually given, moving the ingesta onward and relieving the symptoms for the time being.

On the part of the heart we have in pulmonary tuberculosis a very marked disturbance in innervation. To understand the heart action, one must recall that the heart responds to many different conditions, both physical and psychical. Whenever more blood is needed in any part of the body, the heart must change the character of its beat, either as to rate or as to strength, or both. Under normal conditions in pulmonary tuberculosis, there is a deficient inspiratory act, which, if sufficiently decreased to reduce the normal amount of blood which should be delivered to the right heart at its normal rate of contraction, would of necessity call upon the heart for an increased rate of contraction or an increased output at each contraction. Deficient oxygenation when present increases the heart beat also. If toxemia is present, this of itself will

also increase the rate of contracture by stimulating the sympathetic nerves centrally. On the other hand, the inflammation in the lungs stimulates the vagus and reflexly has a tendency to slow the heart. So the heart is more or less continuously influenced by both sympathetic and vagus impulses.

When pulmonary tuberculosis is present, if the patient is called upon to exert himself, the heart will increase its rate of contraction more than it would under normal conditions. Particularly is this true when toxemia is present. When toxemia is not present, the stimulation of the vagus nerve is often sufficient to prevent the heart from changing the rate of contracture which otherwise would obtain, and the pulse rate appears as a relative bradycardia.

*Oculomotor Nerve.* It is possible that a parasympathetic motor reflex also takes place through the vegetative fibers of the third cranial nerve. There is an unbalanced pupil in a great many of our tuberculous patients. This often shows itself as a dilatation. Occasionally we see it as a narrowing of the pupil, and the fact that we do not have a dilatation more commonly is probably partly due to the reflexly increased tension of the parasympathetic fibers supplying the pupillary muscle. These patients often suffer from disturbance in accommodation. A reflex disturbance in the ciliary muscle must be produced by reflex parasympathetic stimulation.

*Facialis.* The vegetative fibers of the seventh nerve supply the mucous membrane of the nasal cavities and the soft palate. An increased secretion of the nasal mucous membrane is sometimes complained of, and might be due easily to the parasympathetic reflex. The salivary glands are supplied by the chords tympani from the seventh cranial (nerve facialis) and Jacobson's nerve from the ninth (glossopharyngeal). It is not at all uncommon to have increased salivary secretion in our patients with pulmonary tuberculosis, and this is often particularly marked when the larynx is involved.

Hectic flush, which is one of the well-recognized symptoms of pulmonary tuberculosis, is a parasympathetic-motor reflex, the afferent fibers passing through the sensory fibers of the pulmonary branches of the vagus, the efferent passing through the vegetative fibers of the seventh cranial nerve, which supply the mucous membrane of the cheek and face and cause vasodilatation in these structures.

Another reflex which I have previously described is a trophic reflex on the part of the tongue. It will be noticed that patients who have a chronic extensive one-sided pulmonary tuberculosis often show a deviation of the tongue from the median line when protruded, the tongue pushing over to the side of greater involvement. This is a reflex in which the efferent impulse is carried either through the glossopharyngeal hypoglossal, or through the lingual branch of the facialis nerve.

As parasympathetic-motor reflexes through the eleventh nerve (accessorius), we must consider those which are shown through the muscular branches which go to the sternocleidomastoideus

and the trapezius. We must also bear in mind the part that this nerve has in the motor innervation of the larynx and esophagus.

*Pelvic Nerve.* As far as the pelvic nerve is concerned, I am not able to determine many distinctly clinical symptoms which result reflexly from inflammation of the pulmonary tissue, although it is possible that there might be a definite influence upon those portions of the generative organs, the bladder and the rectum, which are supplied by the vagus nerve. The relaxation of the vesical sphincter, which is complained of considerably by many patients, might have back of it the influence produced by reflex stimulation through the vagus and pelvic nerves. Such patients complain of the escape of urine at the time of coughing.

*Parasympathetic Reflex Expressed in the Lung, the Impulse Arising in Other Viscera.* The only two parasympathetic reflexes which can arise in the lung as a result of impulses coming from inflammations in other viscera, are increased bronchial tonus or spasm and increased bronchial secretion.

We may thus have an asthma or a bronchitis arising from stimuli in other organs. It has long been thought that asthma is often of reflex origin and the seat of the stimulus has been variously placed. Eye strain, nasal irritation, polypi, septal spurs and deflections, hay fever, sinus infection, stomach and intestinal irritation, heart affections, and affections of the genitourinary tract, have all been suggested as causes; and all have the physiological reflex connection through the parasympathetics to cause it. No doubt some of the cases of bronchitis are also of reflex origin.

It will thus be seen from this study of the lung, which is only an example, that no organ is an entity; but that it is bound in close relationship with other internal organs. This relationship is particularly strong throughout the enteral system, and the so-called "functional disturbances" on the part of organs of this system become a real genuine part of disease processes.

While this study is confined to the lung, it will be plain to any student of visceral neurology that the same principles apply to all organs of the body; and that these reflexes are particularly strong in the large internal viscera,—the stomach, the intestines, the liver, the pancreas, the kidney, the generative organs, the heart, the blood vessels,—and that all are bound reflexly to each other and that one cannot be seriously inflamed without sending afferent impulses centralward, which result in disturbance of function in other organs bound to them by the vegetative nerves.

## Special Department

### NO COVENANTED PEACE WITH GERMANY.

America, unless we repudiate civilization and abandon humanity and put a premium on savagery and brutality, can make no covenanted peace, no peace by agreement or negotiation with Germany. It would be a covenant with hell, a partnership with infamy.

Nor would such a peace secure peace, except so long as it suited Germany. We can judge the future only by the past, and to Germany sacred

treaties are scraps of paper only. Germany's whole history is a record of national treachery, national bad faith, national dishonor, national murder, and national infamy.

Article 56 of The Hague convention, to which Germany solemnly subscribed, is: "Family honor and rights, the lives of persons and private property, as well as religious convictions and practice, must be respected. Private property can not be confiscated."

The world knows how Germany has observed this article. There are millions of individual witnesses to her flagrant breaches of it. Every acre of foreign soil Germany has occupied bears mute, but unimpeachable evidence of it. There is plenty of German evidence of it, too.

"The goods of different sorts seized in the enemies' territories are in such large quantities that the difficulty of knowing where to put them increases day by day. At the request of the Prussian minister of war, all chambers of commerce have been asked to give all possible information with regard to storehouses, sheds, etc., which could be used temporarily to warehouse the spoil." (From the *Frankfurter Zeitung*, January, 1918.)

The German papers have been crowded with advertisements of sale of property taken from France and Belgium. Members of the Reichstag have boasted of, others have censured, the amount of booty brought to Germany from the occupied territory, and the destruction has been far greater than the confiscation.

Of the old men and children murdered, of the women and girls ravished, of the noncombatants taken from their homes and deported to work for their conquerors, of the merchant ships sunk and passengers and crews murdered, of the hospital ships sunk, the hospitals and unfortified cities bombed, of the mutilation and number by crucifixion and otherwise of wounded and captured soldiers—of all this beastliness there is plenty of evidence, evidence that no one can disbelieve.

The best answer to German peace propaganda is sinking more U-boats, sending more men to France, and speeding up our work along every line.

#### AN UNPRECEDENTED OPPORTUNITY FOR WOMEN.

By EMMA WHEAT GILLMORE, M. D., Chairman, Committee of Women Physicians, General Medical Board, Council of National Defense.

The same year that gold was discovered in California, a lone pioneer received the first medical diploma which the United States had issued to a woman. Other colleges shortly followed the example of the one which had opened its doors to Elizabeth Blackwell, and to-day over fifty co-educational medical schools admit women upon the same terms as men.

There are more than 25,000 American physicians in military service at this writing, and the Council of National Defense is undertaking, through the Volunteer Medical Service corps—an organization which has President Wilson's approval—the task of classifying the qualifications of 90,000 more. Of these, about 6,000 are women, less than one-third of whom have registered with the General Medical board.

Women of the profession, unless our qualifications are standardized and on file, can you not see that we are an unknown quality and quantity as far as the government is concerned? In spite of the overwhelming difference in number—6,000 women and over 100,000 men—and regardless of the fact that over twenty-two centuries have passed since Hippocrates wrote the immortal Oath, and only sixty-nine years have elapsed since women entered the medical profession, the Volunteer Medical Service corps has invited them to membership with the same impartial cordiality as it has the men.

During the last week in August application blanks for the Volunteer Medical Service Corps were mailed in franked envelopes to all legally

qualified men and women in the United States who were not already in government service. Presumably a number of women have been overlooked because many of them are not members of medical societies, but this will speedily be corrected if a notification of the omission is sent to the Volunteer Medical Service Corps, Council of National Defense, Washington, D. C.

Meanwhile, medical women who possess a vision will see in the Volunteer Medical Service Corps an incomparable method of organization which will register their qualifications and place them in an identical coded class system with men physicians. This corps is in reality an ideal procedure for mobilizing the military forces of our country for selective medical war service. Incidentally, it will place loyal and patriotic medical women by the side of those men who are willing to give themselves. Even though all of them are not elected to membership, their names will be on file with the government as willing to serve as far as their strength and capability will permit, and no one can point a finger at them and say "slacker."

Will a page be turned over in the history of American medical women upon which will be written the qualifications of 6,000 of them, matching that group of English physicians known as the Scottish Women's Hospitals, which was so perfectly organized that they were able to hand over to their government a constructively organized body of professional women for military service? Or shall we continue, as we have done in sporadic groups for the past sixty-nine years, to demand recognition of men and at the same time neglect to unanimously affiliate with them in recognized medical societies, and to withhold our influence both with pen and vote when medico-social and medico-political and medico-scientific issues are at stake which shake the very foundation upon which medicine rests?

The body politic of the civilized world holds a prominent place for the profession of medicine in the near future. Are we to have a hand in shaping it? The Volunteer Medical Service Corps is big with promise for women of the medical profession if we take advantage of it to put ourselves on record. The response which the Council of National Defense receives from women who apply for membership will tell the tale as to whether they have or have not grasped and taken advantage of the unprecedented opportunity which this world's war for Democracy has opened up for them through the medium of the Volunteer Medical Service Corps.

#### Book Reviews

**Hodgen Wire Cradle Extension Suspension Splint.**  
By Frank G. Nifong; 124 illustrations; 162 pages. St. Louis: Mosby Co. 1918.

This book describes various splints and their application to fractures of the shaft of the femur, and especially the Hodgen wire cradle extension suspension splint. It has a short chapter on extension splints for fractures of the shaft of the humerus. The author recommends the Hodgen apparatus enthusiastically but does not mention pressure sores over the head of the fibula, which many surgeons may find it difficult to avoid. The book contains many good illustrations and diagrams and will be of interest to those undertaking the treatment of these fractures.

L. E.

**Medical Service at the Front.** By Lieut.-Col. John McCombe, C. A. M. C., and Capt. A. F. Menzies, M. C., C. A. M. C. Illustrated; 128 pages Philadelphia and New York: Lee & Febiger. 1918. Price, \$1.25.

This booklet presents in compact form the organization of the medical service of the Canadian Army Medical Corps and its arrangements for the care of sick and wounded at the front—i. e., from the front

line to the casualty clearing station (a hospital corresponding to our evacuation hospital). It contains numerous explanatory diagrams and plans. The Canadian Army Medical Corps is modeled on the British organization, so that the manual will serve for both.

L. E.

**Lessons From the Enemy.** How Germany cares for her war disabled. By John R. McDill, Major R. M. C., U. S. A. Medical war manual No. 5. Authorized by Secretary of War Philadelphia and New York. Lee & Febiger. 1918. Price \$1.50.

Major McDill, as director of an independent hospital unit sent from America, went to Germany in 1916. This book gives the results of his experiences. He was evidently a keen observer, and writes thoroughly of what came under his eye in his own hospital, and also of the general arrangements made by the Germans for the care and transportation of their wounded, and for the care of their crippled. He was aided in his investigations by the German authorities. The result is an excellent manual that should be of great value in the work that is ahead of us.

L. W. E.

**Surgical Applied Anatomy.** By Sir Frederick Treves. 7th edition. Revised by Arthur Keith and W. Colin Mackenzie. 674 pages of text. Illustrated. Philadelphia: Lea & Febiger. 1918. Price \$3.

It is seldom that we are called upon to pass on a work that is so meritorious and favorably known as Treves' *Surgical Applied Anatomy*. We cannot pause to search out minor typographical errors when once absorbed in the wealth of useful and important facts so practically placed before the reader in the new seventh edition. Every surgeon, physician and student in medicine should have a copy of this work in his or her pocket, and should peruse and recall every fact until it is at the memory's beck and call. We regret only that it has been necessary to increase the price and in this way to cause a demand for copies of the older editions. We must candidly admit, however, that this little "big" book is indeed worth the \$3.

F. E. B.

**A Textbook of Obstetrics.** By Barton Cooke Hirst, M. D., Professor of Obstetrics in the University of Pennsylvania. Eighth Edition, Revised and Reset. Octavo of 863 pages, with 715 illustrations, 38 of them in colors. Philadelphia and London. W. B. Saunders Company. 1918. Cloth. \$5.00 net.

The eighth edition of this well-known textbook is very similar to previous editions. It is so well known that comments upon its attractiveness for students or its shortcomings for general practitioners are hardly necessary. The reviewer has read with interest every page of the present edition. The entire subject of obstetrics is crowded into 830 pages with as little padding as is found in the average American textbook of obstetrics. One misses the exact statistical data that Hirst could give from his vast experience. The book will meet the needs of many undergraduates, but it is too vague and indefinite to satisfy men in active practice. The illustrations are mainly from photographs which add to the attractiveness of the volume.

A. B. S.

**Infant Feeding.** By Clifford G. Grulée, A. M., M. D., Assistant Professor of Pediatrics at Rush Medical College; Attending Pediatrician to Presbyterian Hospital, Chicago. Third Edition Thoroughly Revised. Octavo of 326 pages, illustrated. Philadelphia and London. W. B. Saunders Company. 1917. Cloth \$3.25 net.

The third edition of Grulée's student's manual on

infant feeding has come from the printer, and in every way it carries out the high standards of previous editions. It can be recommended without reservation to students, nurses and physicians. It is thoroughly sound, and is written in such a manner that even the most technical pages become interesting. The inclusion of Von Pirquet's illuminating charts, which give graphic demonstrations of physiological tolerance and pathological intolerance for food, is of great value. The only adverse criticism would rest on the objection to the author's complete acceptance of Finkelstein's teaching with regard to the nutritional disturbances of nurslings. We have progressed in our understanding of these disorders beyond the point at which the Berlin clinician left us and, whatever we may owe to him, much of his teaching is open to more criticism than one finds it subject to in Grulée's manual. However, such is but a minor objection and no physician or nurse who purchases the book for daily use but will glean much information and valuable aid from its pages.

L. P.

**The Treatment of War Wounds.** By W. W. Keen, M. D., L. L. D., Emeritus Professor of Surgery, Jefferson Medical College, Philadelphia. Second Edition, Reset; 12 mo., 276 pages; illustrated. Philadelphia and London: W. B. Saunders Company. 1918. Cloth, \$2.00 net.

It is remarkable how much a man like Keen can compress into one small volume. The *Nestor of American surgery* has given us a compendium which should stand through many editions as a monument to his talents as a teacher, to his experience, oversight and humanity. He says in the first paragraph that the book is incomplete. It omits chapters on dental and plastic surgery, orthopedics and rehabilitation of the wounded,—but that which it does give is so excellent an exposition of the most important surgical achievements of the present war, that one who studies it well will have at his command almost everything of moment,—facts that could otherwise be gathered only by laborious reading and experience. It contains 204 pages of text, 178 of them are devoted to general surgery, shock, transportation of wounded, fractures, the various new antiseptic methods, X-ray localization, and the various malignant infections. The remaining chapters treat of wounds of the body cavities, burns, and include as addenda a number of personal letters from prominent surgeons. Scattered through its pages are many formulae, practical hints and technical directions. These alone would make it a welcome companion to the surgeon on active duty. A man who includes this book in his luggage may leave many others behind. It should stand as a classic. Certainly it is the ranking English monograph on the surgery of the present war. May Keen be with us to see the book through many editions!

L. E.

**Interpretation of Dental and Maxillary Roentgenograms.** By Robt. H. Ivy, M. D., D. D. S. St. Louis. C. V. Mosby Co. 1918.

This little volume is valuable on account of the emphasis it gives (1) to the fact that the roentgen ray is valuable in diagnosis only in the hands of those few who have the knowledge and the experience sufficient to enable them to distinguish the normal from the abnormal; (2) to the fact that rarefied areas shown in post-operative roentgenograms are in most cases active foci of disease; (3) to the lack of co-ordination "of the clinical, roentgenologic, and other parts of the examination" for dental pathology; (4) to the fact that both plates and films should be used in cases of roentgenologic examination that give rise to doubts. The book discusses matters quite out of date; for instance, "good" root fillings and the treatment of dead teeth. The author's ideas about the classification and handling of dead teeth are now quite

obsolete. For some years dentists on the Pacific Coast have realized that dead teeth cannot be rendered permanently aseptic. In view of present knowledge it is truly startling to find that Ivy advocates the toleration of streptococcal infection until such time as systemic states, in some cases probably incurable, have reached a diagnosable stage. Of the 144 pages only 47 are devoted to reading matter. The rest of the book is given up to illustrations of roentgenographic prints. Many of these illustrations aiming to instruct one unfamiliar with the work how to interpret roentgenograms, are inadequate for this purpose, and they are of little value to one who has already learned how to interpret roentgenograms. Moreover, some of the prints are misleading since they picture case after case pronounced "normal" which indicate the need of radical operation because of pathology clearly indicated in the prints. On the whole, then, the book, in spite of the emphasis given to some good points, is at least five years behind the times.

J. N.

**Diseases of the Male Urethra.** By Irvin S. Koll, M.D., Professor of Genito-Urinary Diseases, Post-Graduate Medical School and Hospital, Chicago. Octavo of 151 pages, with 123 illustrations, several in colors. Philadelphia and London: W. B. Saunders Company. 1918. Cloth, \$3.00 net.

This monograph of fourteen chapters gives the personal experience of the author, and as such is concise and brief. Many of the facts expressed are probably not shared by the majority of his colleagues. Anatomical descriptions are disappointing and often confusing, as, for instance, in the first chapter, the urethra is divided into a pelvic, perineal, scrotal and penile portion, but in chapter VIII in connection with stricture of the anterior urethra a navicular, penile and bulbous portion is considered. Warden's views concerning the transmutation of the gonococcus are quoted at length in chapter III, but in the next chapter the author contradicts himself by saying that a gram-negative intercellular diplococcus always means gonorrhea. In a very brief chapter on diagnosis the many useful glass tests receive no mention whatever, the two glass test being listed as the only one of any value and then dismissed "as neither necessary nor essential as it is not a difficult matter to differentiate between anterior and posterior urethritis symptomatically or subjectively without it." The author uses albargin ointment in the treatment of acute gonorrhœa and states that he can abort in five to ten days all acute cases seen within twenty-four hours of the onset of a discharge. In the treatment of chronic prostatitis the author depends mostly upon massage two to three times weekly which he states should be "continued as long as any pus or detritus is expressed from the gland," which he determines "solely by the appearance of the urine voided after massage." Seminal vesiculitis in the author's opinion always accompanies prostatic infection, but no outline whatever for the treatment of the condition is given. In the chapter on stricture fibrolysin is recommended "one ampule injected intravenously on three successive days." In cases of acute urinary retention the much abused suprapubic trocar is advocated. The monograph is of considerable interest and value to specialists, as an expression of the author's personal experience, but so many of the views are reactionary with no mention of other better recognized methods that it cannot be recommended to the student.

F. H.

**Typhoid Fever Considered as a Problem of Scientific Medicine.** By Frederick P. Gay. Cloth; price, \$2.50 net. New York: Macmillan. 1918.

In this book the author has succeeded in summarizing critically our present knowledge of typhoid fever. The treatise represents a well-balanced compilation of the accumulated laboratory and clinical

facts on enteric fevers. Many of the statements are enhanced by the author's personal research, particularly the chapters on artificial immunization and the protective value of vaccination against typhoid fever. Important statistical data are presented for the first time in a comparative form and illustrate conclusively the progress scientific medicine has made in the control of typhoid fever. Most of the other chapters may be classed as valuable reviews of the more modern views and problems of this disease. To the specialist in public health, laboratory diagnosis or experimental pathology, however, the chapters on the modes of infection, diagnosis, the carrier condition, and the treatment of typhoid fever are somewhat disappointing. Unverified statements published in the literature and conclusions drawn from a limited number of experimental observations are used to support some of the author's conceptions of the pathogenesis and immunity of enteric infections. There are also some important omissions, for example, the recognized value of brilliant green in the isolation of enteric fever organisms from the stool is barely mentioned, and the use of glycerine as a preservative for typhoid stools (Teague and Clurman, Benians) have been overlooked. Unfortunately the chapter on carriers does not include Chesley's interesting statistical material (Jour. Am. Med. Assn., 1917, 68), which is the first comprehensive review of the carrier situation in America, and which in itself could have enhanced the chapter on suggested methods of advance in solving the typhoid problem. And again, just as several workers (see Zinsser, "Infection and Resistance," 2nd Edition, 1918, p. 310) were unable to confirm the observations on specific hyperleucocytosis, which Professor Gay still considers the most important function producing the striking results sometimes noted in intravenous vaccine therapy of typhoid fever, those studying the experimental typhoid carriers state in animals, will be obliged to disagree with the author of the treatise relative to many of his statements and conclusions. These few impressions which the reviewer gained by reading the book very carefully do not, however, reduce the general value of the publication, which unfortunately has no index. The bibliography is fairly complete, there are unintentional and intentional omissions. Some references are incomplete, others are not quoted according to a uniform plan and the names of some authors are misspelled.

K. F. M.

**Blood Transfusion, Hemorrhage and the Anemias.** By B. M. Bernheim. Cloth. 259 pages. Philadelphia: Lippincott. 1918.

Bernheim says in his preface, "It has been my purpose to adhere to the practical side of the subject, both as regards discussions of indications and selection of transfusion methods. Theoretical considerations have been eliminated as far as possible and the future uses to which blood transfusion may be put have hardly been suggested, since the book is meant for the man who is engaged in clinical work of this nature, and desires to know concretely what is being done and how to do it." The bibliographies at the ends of the chapters will guide those who wish to go into the subject farther. The book is entertainingly written and is the outcome of lengthy experience and assiduous study. It fulfills, in the main, the purpose for which it is intended. However, some of its statements are open to criticism. To say that "the death-knell of direct transfusion has been sounded" (page 89) is putting it too strongly. The indirect citrate method has many advantages, but certainly a technic which provokes a chill and a severe reaction in about 25% of all recipients and causes unknown and uncontrollable changes in the blood is open to improvement. It may be doubted whether this method will not ultimately be abandoned. The elaborate description of Crile's and Elsberg's methods, which are of purely historical interest, might

be dispensed with. Of other direct methods Bernheim describes his own, a good one, but omits Pope's tube and its modifications which are just as simple. Among the dangers of transfusion, anaphylaxis receives but scanty mention. I think it more frequent than Bernheim's figures would indicate. It is a question whether all danger may be avoided by proper laboratory tests and whether toxicity and other ill effects of the introduction of extraneous blood always run parallel to its hemolytic and agglutinative properties. An exhaustive discussion of a treatise on a subject still so much in flux and in the making, and still so unexplored as is transfusion, would exceed the limits of a review. However, we agree with Bernheim that transfusion is destined to see an extensive development, that transfusions are done on the whole rather too seldom than too often, and that their risks rarely outweigh their possible benefits.

L. E.

## County Societies

### ALAMEDA COUNTY.

Dr. Kirby Smith, Health Officer of the City of Oakland for the past three years, has entered the Service, as have Drs. W. S. Kuder, G. T. Pomeroy, H. L. Parish and Ellsworth Bailey.

Dr. Bailey, who held the position of Roentgenologist at Fabiola Hospital, has been succeeded by Dr. May Dutton.

Fabiola Hospital is equipping an up-to-date laboratory. Dr. Margaret Baldwin will be in charge.

Dr. Theodore Olmsted, for a number of years superintendent of the University Club of San Francisco, has been elected his successor.

The regular meeting of the Alameda County Medical Association held September 16th was devoted to Venereal Disease Control.

### LOS ANGELES COUNTY.

#### PERSONALS.

##### Dr. Lacey in War Work.

Leave of absence during the war was granted Dr. J. Mark Lacey, medical director of the County Hospital, who has been called to service. He will probably leave for France in October.

Dr. W. E. Mulvihill, formerly chief resident physician at the County Hospital, now is in Camp Cody.

##### Dr. Hanson Joins Colors.

Dr. Charles O. Hanson of Pasadena left before September 7 for Fort Winfield Scott, San Francisco, to begin his duties as captain in the Medical Corps of the Army.

##### Pasadena Doctor's Thrilling Service.

Dr. Raymond B. Mixsell returned September 12 from six months' service in France. He narrowly escaped being blown up by bombs on two occasions and was forced to evacuate his Red Cross civilian hospital under fire of hundreds of German guns.

##### Dr. Charles B. Dirks is Captain.

Dr. Dirks, Eagle Rock, chief deputy county health officer, was commissioned captain in the Medical Corps, U. S. A., September 23. He was ordered to report at Camp Kearny, Linda Vista, within ten days.

##### A Doctor's Wife Red Cross Home Nurse.

Mrs. Geoffrey J. Fleming, wife of an Ontario physician, was appointed September 29 official home defense nurse for the Ontario Red Cross chapter, by Lillian White, director of nursing for the Pacific Red Cross division with headquarters in San Fran-

cisco. Mrs. Fleming is a graduate of the Illinois Training School for Nurses, Chicago.

##### Dr. H. A. Huntoon Commissioned Captain.

Dr. Huntoon has been called to service in the Medical Reserve Corps, to report for duty on the 17th instant at the Base Hospital at Camp Fremont, Palo Alto.

##### Beach Doctor Joins Army.

Dr. Robert B. Sweet is leaving for San Francisco, where he will report for duty as a lieutenant in the medical service of the Navy.

**A Monthly Bulletin of the Los Angeles City Health Department.** F. T. Woodman, Mayor. Published Under Direction of L. M. Powers, M. D., Health Commissioner. Edited by Arthur J. Messier.

Judging by the July number of the Bulletin, Vol. 5, No. 8, Dr. Powers, the Health Commissioner of Los Angeles, and his collaborator, Arthur J. Messier, deserve from the medical profession appreciative recognition for their careful scientific presentation of all the many subjects appertaining to the welfare of the community. Valuable information can be gleaned under the following heads: The Latest Milk Contest, Certified Class, Guaranteed Class, Grade "A" Pasteurized, Grade "A" Raw, Goat Milk; Vital Statistics, Bacteriological Examinations, Houses Quarantined, Fumigation, Chemical Examinations, Milk Inspection, Meal and Bakery Inspection, Fruit and Vegetable Inspection, Sanitary Inspection, Housing Inspection, District Physicians, Obstetrical Physicians, Tuberculosis Physicians, Genito-Urinary Clinics, Los Felis Hospital for Women, Venereal Work for Men at City Jails, Vaccination, etc. Nursing Division.

Summary of Reports for July on all above topics ending with an article on War and Babies. Every practitioner would be benefited by reading these excellent bulletins. Let us congratulate ourselves for having such an excellent and efficient health officer in Dr. Powers.

##### Social Health Insurance.

There was a special meeting of the Los Angeles County Branch of the California League for the Conservation of the Public Health September 7, 1918, at 8 p. m., in Hamburger's Cafe Room.

Dr. Fitch C. E. Mattison presided. Dr. Harry Vorhees acted as secretary. The object of the meeting was to discuss "Social Health Insurance" which will probably practically emasculate the medical, dental and pharmaceutical professions, and pauperize or bankrupt the members if adopted.

Speakers were Dr. H. A. L. Rykogel, San Francisco; Dr. Dudley Smith, Oakland; Dr. James Franklin Smith, San Francisco, and others.

##### San Dimas Needs No Doctors.

Dr. C. P. Shaffer, the only doctor in San Dimas, a city of 1200, left September 12 to make his home in Long Beach. San Dimas is too healthy and has had no serious epidemic for many years.

##### Medical Commissions for British Subjects.

Graduates of British or Canadian colleges may obtain commissions in the Medical Corps of either Army, according to Lieut. James Simpson, in charge of the British recruiting office in Los Angeles.

##### American Women's Hospitals.

September 19, Los Angeles was urged to hurry and fill her quota of \$50,000 to send her hospital unit to France by Dr. Martha Welpton, national secretary-treasurer, in a message to Dr. Louis Richter of the local branch. A New York woman gave \$100,000 to the hospital organization when she heard of the vital work that women doctors and surgeons are doing at the front. The head-

quarters of the organization are in the Citizens' National Bank building.

#### Los Angeles Graduate Nurses.

Every graduate nurse of the county can enlist immediately for military nursing service with the bureau of nursing of the Los Angeles chapter of the American Red Cross, according to Miss Margaret McClure, acting director.

#### 37,000 Tons Hospital Supplies Transported Sept. 25.

These supplies included beds, bedding, and everything needed to equip a modern hospital and were safely transported from the United States to Edinburgh, Scotland, according to a letter received today by Rev. C. V. Cowan of Pasadena from his son, Dr. Rea Cowan of Los Angeles.

Dr. Cowan is first lieutenant with a naval base hospital in Scotland.

### ORANGE COUNTY.

#### August.

The August meeting of the Orange County Medical Society was held at Santa Ana. A large number of the members were present. The paper of the evening entitled "Ileocolitis Epidemica" was read by Dr. J. I. Clark of Santa Ana. The doctor reported nine cases, some of which had been so severe as to prove fatal. The presence of the Shiga bacillus was demonstrated. The paper proved to be one of great interest and provoked a very wide and profitable discussion.

Capt. J. M. Burlew has returned from an Eastern cantonment and will resume his practice in Santa Ana.

#### September.

Since Dr. H. S. Gordon of Santa Ana has been in practice forty years and having spent twenty of those years in Orange County, Mrs. Gordon invited the Orange County Medical Society to meet at their home. The regular September meeting was therefore a social as well as a scientific success. The commodious home of Dr. Gordon was arranged to accommodate the society at a delicious banquet. Dr. Gordon's sons assisted in the entertainment of the guests. The paper of the evening entitled "Ileus" was given by Dr. J. L. Beebe of Anaheim and enjoyed by all present. The after-dinner speeches were, of course, reminiscences of early days and referred in the main to experiences with and about Dr. Gordon. Most notable of all were the remarks of Mrs. Gordon, who besides extending to all present a most cordial welcome to their home referred most fitly to the work of the physician's wife, and her part in the life of the busy doctor. At the conclusion of the meeting Dr. Gordon was presented with a volume entitled "Our National Parks," on the front page of which every member present signed his name and year of graduation in the order of occurrence. Dr. Gordon made a most fitting reply. The meeting at the Gordon home will stand out in the memories of all present as having been one of the most delightful events in the life of the Orange County Medical Society.

#### October.

The Orange County Medical Society met at the County Hospital on the evening of October 1 as the guests of Dr. and Mrs. H. A. Zaiser, a large number of the members being present. The paper of the evening was by Dr. Dickey of Los Angeles Bureau of Social Hygiene and related to the subject of the control of venereal diseases. The doctor brought out many interesting facts, and above all showed how the preventive methods used at Camp Kearny had reduced the number of infections to a minimum. He also urged upon the members of the Society the value of registering all venereal patients by number so that they could be followed up and not become a greater peril because of lack of treat-

ment and supervision. Dr. A. H. Zeiler of Los Angeles discussed the paper at length, adding many very useful hints regarding treatment and especially the use and value of Salvarsan. Many members joined in the discussion.

Dr. J. A. Jackson of Anaheim reported a case of pernicious anemia which he had under care, in which he was using blood transfusions and had increased the blood count from one million to somewhat over three millions.

After the meeting the Society adjourned to partake of a delightful luncheon served by Mrs. Zaiser and the nurses of the County Hospital. The meeting was so successful that it is hoped that Dr. Zaiser will see fit to invite the Society in the near future to meet with him again.

Lieut. Davis returned to Camp Lewis after a short visit.

Capt. Wickett is in France in an evacuation hospital.

### SAN BERNARDINO COUNTY.

The San Bernardino County Medical Society held its annual meeting at the University Club, the retiring president, Dr. B. F. Church, presiding at a dinner served in keeping with war-time conditions.

The discussion of social health insurance, the proposed state law to come up in November, developed a decided attitude against the proposed measure as inimical to public welfare. Other matters brought up for discussion were the new State League for the Conservation of Public Health and the Medical Corps and Volunteer Medical Corps.

The newly elected officers of the society are: Thomas M. Blythe, Redlands, President; R. S. Gibbs, San Bernardino, First Vice-President; W. B. Power, Redlands, Second Vice-President; C. L. Curtiss, Redlands, Secretary and Treasurer.

### SAN DIEGO COUNTY.

Captain Thomas O. Burger, M. R. C., for some time stationed at Base Hospital, Camp Cody, N. M., is attached as surgeon to the recently organized unit of Base Hospital 94, destined soon to see service across the water.

Lieutenant Colonel Robert Smart has about completed organizing Base Hospital 96, which will soon proceed to the front. Dr. Smart is the first of San Diego's medical men to receive the commission of Lieutenant Colonel. The doctor has the advantage of previous experience in military medicine during war times.

The local boards and advisory board recently enjoyed a round table discussion on methods of draft examination participated in by men from Camp Kearny.

Captain George B. Worthington, M. R. C., has been detailed from Camp Kearny to the United States Hospital as surgeon in chief. Henceforth, men of the service whose families are here, left behind, can rest in the certitude that they will be adequately cared for.

#### Lieutenant Gordon T. Courtenay, M. D., Medical Corps, U. S. Navy.

Overwhelmed by the excess of his devotion, in the epidemic on the Atlantic seaboard, became one of its most shining victims and passed away two days before going upon high sea duty, Monday, September 23, 1918, aged 32 years.

As from the mists of ages arising  
From the dull gray plain of men,  
Like a sun-lighted hill your Heaven-lent skill  
So oft has beaconed the way  
Through the Valley of the Shadows,  
Back from No Man's Land of pain  
For many, O many, who mourn today.  
These are they that you so oft have borne away  
And safely back to home and life again.

Tell me were there no others, no stronger brothers,  
To bear you back as you oft have others,  
Back from war's pestilential rain?  
Lost in the vale of your devotion  
They searched and hunted—but hunted in vain.  
Rest, my Brother, rest—we here and Over There  
Undismayed, your light will carry on.  
—A token from his fellow members of the San  
Diego County Medical Society.  
(Every physically acceptable member is in the  
service.)

#### SAN FRANCISCO.

Proceedings of the San Francisco County Medical Society.

During the month of September, 1918, the following meetings were held:

**Tuesday, September 3d—Section on Medicine.**

1. Speech defects, from a pedagogic standpoint. Exhibition of cases. Mrs. Mabel Farrington Gifford.
2. Report of a case of singultus. H. D'Arcy Power.

**Tuesday, September 10th.**

1. Pathological specimens: (a) Acute endocarditis; (b) tubercular kidney. George E. Ebright.
2. Anaerobic flora of war wounds. Karl F. Meyer.

**Tuesday, September 17th.**

St. Luke's Hospital Clinical Evening.

1. Diagnostic value of fractional stomach analysis in a series of 218 cases. E. V. Knapp.
2. Medical and sanitary conditions in the Orient. Lewis W. Allen.
3. Recurrence of stone in the kidney after operation. W. P. Willard.

#### SAN JOAQUIN COUNTY.

The regular monthly meeting of the San Joaquin County Medical Society was held at the residence of Dr. E. A. Arthur, Friday evening, September 27th. Those present were Dr. C. F. English, J. T. Davison, C. D. Holliger, W. J. Backus, Grace McCoskey, Margaret Smyth, B. F. Walker, L. Dozier, Mary Taylor, E. A. Arthur, R. R. Hammond, R. T. McGurk.

The paper of the evening was presented by Dr. E. A. Arthur on "Prophylaxis." The discussion was opened by Dr. Holliger, who gave an interesting résumé of the part played by serology in the establishment of prophylaxis.

At the conclusion of the paper Captain Hammond, who was home for a few days' leave gave a most interesting report of some of his experiences since entering the Service.

#### Notices

##### BULLETIN ON SPANISH INFLUENZA.

The Surgeon General of the U. S. Public Health Service has just issued a publication dealing with Spanish Influenza, which contains all known available information regarding this disease. Simple methods relative to its prevention, manner of spread, and care of patients, are also given. Readers may obtain copies of this pamphlet free of charge by writing to the "Surgeon General, U. S. Public Health Service, Washington, D. C."

The following is the program for the colloquia given by the joint committee of the Stanford University Medical School and the San Francisco Polyclinic, at the San Francisco Hospital, for the month of November, 1918:

November 7, Dr. Roderic O'Conner, ophthalmol-

ogy; November 14, Dr. T. G. Russell, surgery; November 21, Dr. C. F. Welty, otology and larynx; November 28, Dr. F. B. Carpenter and Dr. W. E. Stevens, gynecology. Surgery 9 a. m. in the surgical amphitheater.

November 1, Dr. H. P. Hill and Dr. P. H. Luttrell, medicine; November 8, Dr. W. F. Schaller, neurology; November 15, Dr. H. H. Yerington, pediatrics; November 22, Dr. H. P. Hill, medicine. Medicine 9 a. m. in the medical amphitheater.

Very truly yours,

WM. OPHULS,

Dean, Stanford University Medical School.

Programs for individual meetings may be obtained upon application to the Dean's office, Stanford Medical School, 2398 Sacramento street, San Francisco, California.

#### COLLOQUIA.

Owing to the epidemic of influenza which has now become a serious problem in our community, it has been decided by the Board of Health to use the San Francisco Hospital to the fullest extent possible to care for the influenza cases. In order to do this it will be necessary to curtail all surgery to only urgent cases. Consequently it becomes imperative that the colloquia that have recently been commenced and which have proved so successful, be discontinued for the present. As soon as the San Francisco Hospital is again available, a notice will be sent and the colloquia resumed.

Very respectfully yours.

The Joint Committee:

H. P. Hill, M. D.  
Emmet Rixford, M. D.  
Cullen F. Welty, M. D.  
H. A. L. Rykogel, M. D.  
William Ophuls, M. D.  
S. Nicholas Jacobs,  
Secretary.

#### Correspondence

##### LICENSE EXAMINATIONS IN FOREIGN LANGUAGE.

To the Editor:—Can a California physician be examined in English in Latin-America, in France or in Japan? If a certificate should be granted to a foreigner is there any legal provision whereby his practice could be restricted to his own nationality? Has the war already created such a deficit in professional men that we are obliged to remove all professional restrictions from those who cannot speak our language? Is it true that our country needs a larger element of those who cannot read or write our language and who, therefore, cannot absorb the "spirit" of America? Personally, I would answer all these questions in the negative. This country is already reaping the disadvantages of its concessions to foreign languages. The parochial schools in German, Spanish and other tongues have fostered an un-American spirit among thousands of our so-called citizens. Transitory visitors to our land should be treated with all possible courtesy but permanent residents among us should be required to adopt our language. Unification of language is one of the most important bulwarks of "National Spirit."

Sincerely yours,

(Signed) JOHN C. KING.

Banning.

To the Editor: . . . I wish to state that my opinion is that all candidates should take the examination in the English language only. My reasons are so many I can not mention all of them,

but suffice it to say Americanize them or keep them out.

Sincerely yours,  
ROBT. L. CRUM, M.D.  
Los Angeles.

To the Editor:—Complying with your request in the September issue of the Journal, relative to the desirability of the State Board of Medical Examiners holding examinations for license in any language other than English: We practitioners of the State do not believe it desirable. "Americanize our foreign communities and bring them to American social standards."

(Signed) E. F. REAMER, M.D.  
Modesto.

To the Editor: . . . I do not think there is any argument at all. . . . My answer is America for Americans, and if they do not wish to become Americans—why did they come to the U. S. A?

Yours respectfully,  
W. H. C. HATTEROTH, M.D.  
Oakland.

## Military News

### VOLUNTEER MEDICAL SERVICE CORPS OF THE UNITED STATES.

Authorized by the Council of National Defense;  
Approved by the President of the United States.

What is the Volunteer Medical Service Corps?

The Volunteer Medical Service Corps is an organization which provides means for obtaining quickly men and women for any military or civil medical service required in the war emergency. It furnishes recommendations and necessary credentials to assure the best medical service, both military and civil.

How should application for membership be made?

Upon request to the Volunteer Medical Service Corps, Council of National Defense, Washington, D. C., application blanks and circulars of information will be sent. When received, the application form should be filled out completely, in accordance with instructions contained in the circular of information. The application should then be mailed to the Volunteer Medical Service Corps, Council of National Defense, Washington, D. C.

What is to be gained by the creation of this organization?

Placing on record all medical men and women in the United States; aiding Army, Navy, Public Health Service, Provost Marshal General's office and the American Red Cross in supplying war medical needs; providing the best civilian medical service possible; giving recognition to all who record themselves either in Army, Navy, Public Health Service, Provost Marshal General's office, Red Cross activities or civilian service.

What is meant by classification?

It is the record of information furnished by the individual physician so that when the need arises, he may be requested to perform service that will be mutually advantageous to the individual and the service to which he may be assigned.

Who are eligible?

Every legally qualified physician holding the degree of Doctor of Medicine from a legally chartered medical school without reference to age or physical disability is eligible for membership in the

Volunteer Medical Corps provided he or she is not already commissioned in the Government service.

How is eligibility to the corps determined?

Upon information obtained from application blanks, three personal references and the executive committee of the State in which the applicant resides. Based upon the information thus secured, the Central Governing board will finally pass upon applications.

Does membership in the corps carry with it rank and pay?

This corps is not authorized to bestow rank. Arrangements for compensation shall be made between a member requested to perform a specific duty and the agency requesting service. The matter of compensation and place of service, whether with or without rank, must be determined at the time said request is made. When a member of the corps accepts service in the Medical Reserve corps of the army, the Naval Reserve force, the United States Public Health service, the American Red Cross or any governmental department, he or she will be accorded the rank and pay incident to the service in the department in which he or she has enrolled.

Will any member of this corps be ordered to active duty?

No member will be ordered to render any service. Requests to perform specific duties according to qualifications and availability under the classification of the Volunteer Medical Service Corps may be made from time to time as emergencies arise.

What will be the probable character of service members who will be requested to render?

- (a) Medical Reserve corps.
- (b) Naval Reserve force.
- (c) United States Public Health Service.
- (d) American Red Cross.
- (e) Local and medical advisory boards.
- (f) State and local health departments.
- (g) Medical schools and hospitals.
- (h) Industrial plants.
- (i) Civil communities.

Caring for civil communities, stripped of medical attention.

Caring for practices of physicians in military service.

Reclamation of registrants rejected for physical unfitness.

Service to needy families and dependents of enlisted men.

- (j) Miscellaneous service.

When will physicians who are not classified for actual military or naval service be requested to perform service?

When the emergency arises the following may be requested to perform duties in accordance with their qualifications and expressed merits as indicated by the information contained on their application blanks:

- (a) Physicians over 55 years of age.
- (b) Physicians with obvious physical disabilities which are disqualifying.
- (c) Those rejected for all government service because of physical disability.

What are some of the duties that this last group of physicians ineligible for active military service may be requested to perform?

(a) Deducting those members of the medical profession who will eventually be in active military, naval or public health service, fully 75 per cent. of the remainder will be encouraged to continue at their home duties.

(b) Some of these may be called upon to supplement their private practices by performing part-

time service to meet community needs hitherto performed by men called to active duty.

(c) Twenty-five per cent. of those not actually engaged in war service (possibly 20,000 in number) who are now engaged in home duties but who have agreed to do work of any kind anywhere, upon request of the Central Governing board will, as the emergency arises, be recommended for duty in the following places:

1. Local and medical advisory boards.
2. Medical schools and hospitals.
3. Industrial plants.
4. Health departments.
5. Communities lacking medical service.

How does enrollment in this corps differ from actual conscription?

The Volunteer Medical Service Corps is exactly what its name indicates. It is a gentleman's agreement on the part of the civilian doctors of the United States who have not yet been commissioned in the army or navy or enrolled in the Public Health service, or in the service of the Provost Marshal General, and a representative board consisting of government officials associated with lay members of the profession in which civilian physicians agree to offer their services to the government if requested to do so by the Central Governing board.

In what way can this corps aid the government?

By recording all physicians who are not yet in service and classifying them so as to utilize the talents and facilities of individuals to the best advantage and inflict as little hardship on the individual as possible, in accordance with the letter from the President of the United States authorizing the corps—"to supply the needs of the army, navy and Public Health service . . . aiding in the important work of the Provost Marshal General's office and Red Cross . . . and the problems of the health of the civilian communities of the United States." It provides a method by which every physician not in uniform will be entitled to wear an insignia which indicates his willingness to serve his government. It furnishes a method by which the medical needs of the nation may be provided for through a representative board of physicians who know the needs of the army, navy, Public Health service, Red Cross and civil communities.

To what extent must provision be made for essential civilian and industrial medical needs?

A large percentage of the physicians of the country will be required to care for their respective home communities and to meet civilian health needs. This percentage of necessity will be expected to maintain their home status and continue their professional work.

Will enrollment in the Volunteer Medical Service corps excuse a physician in the draft age from registration under the Selective Draft Service law or from being classified therein?

Positively not.

Why, then, enroll in the Volunteer Medical Service corps if it does not supplant the draft?

(a) Under the Selective Service law individuals in the draft age are registered and inducted into the service as privates. The Volunteer Medical Service Corps enrolls and classifies individuals as prospective commissioned officers and will, when requested, assist in establishing the individual's status when he requests transfer from the enlisted forces to the commissioned branches of the service.

(b) Enrollment in the Volunteer Medical Service corps definitely registers the physician as a patriot and provides definite governmental recognition of his willingness to serve.

Why should every physician in the United States enroll in the Volunteer Medical Service corps?

(a) The unsurpassed record of volunteer enroll-

ment for actual service on the part of the medical profession must be maintained.

(b) The army and navy must not be hampered for a moment for lack of doctors to care for the sick and wounded boys fighting our battles at the front.

(c) The public health must be conserved.

(d) The medical needs of the Provost Marshal General must be adequately met.

(e) The great industries furnishing materials of war employing thousands of patriotic workers, must have medical service.

(f) The home folks, the old and the young wearily waiting over here, must have doctors.

(g) Recording, classifying, and careful distribution and full utilization of our entire profession of medicine will enable us to instantly supply all demands, and our utmost resources will then be available to aid in establishing a permanent peace that will forever make this world a safe place in which women and children may live.

#### FOR ARMY NURSES AT BASE HOSPITALS.

To give army and navy nurses a comfortable place in which to spend their hours off duty, the American Red Cross will provide special nurses' recreation houses at all large base hospitals, to cost about \$350,000. Contracts have been let for 40, several of which are completed and some more are under contract.

These houses were provided as soon as it was learned that the nurses had no attractive rest rooms and were obliged either to stay in their bedrooms or to sit in a narrow corridor-like space set aside for them. In some of the camps the Red Cross not only has provided these houses but has secured cottages near-by in the mountains or at the seashore, where nurses, especially in need of rest, can go for a recuperative week end. The nurses keep house for themselves.

#### New Members

Genocchio, Edw. P., San Francisco.  
Carpenter, C. R., San Diego.  
Macpherson, J. F., San Diego.

#### Deaths

Courtenay, Gordon Trevor, San Diego. A graduate of Northwestern University Medical School, Ill., '08. Licensed here 1913. A member of the State Society. Died Monday, September 23, 1918, age 32, at sea.

Moss, Robt. E., a graduate of Marion-Sims Medical College, Mo., 1897. Licensed in California 1909. Died in Riverside, Calif., September 27, 1918.

Hurley, James Morgan, a graduate of the Cincinnati College of Medicine and Surgery, 1885. Licensed in California. Died September 25, 1918, in San Bernardino.

Bullard, Wm. B., a graduate of Bowdoin Medical School, Me., 1859. Licensed in California 1888. Died September 23, 1918, in Los Angeles, Cal.

Power, Florence B., a graduate of the University of Oregon, 1893. Licensed in California 1894. Died at the Plaza Hotel, San Francisco, September 29. The wife of Dr. H. D'Arcy Power.

Barr, James, a graduate of the Hahnemann Medical College, Chicago, Ill., 1880. Licensed in California 1895. Died in Los Angeles August 24, 1918.

Nichols, George C., a graduate of Rush Medical College, Ill., 1894. Licensed in California 1904. Died in Flagstaff, Ariz.